# 1NC vs West Ranch SV

## 1NC

#### Interpretation: “private entities” excludes governments

UpCounsel n.d. [(UpCounsel, interactive online service that makes it faster and easier for businesses to find and hire legal help solely based on their preferences) “Private Entity: Everything You Need to Know”] JL

A private entity can be a partnership, corporation, individual, nonprofit organization, company, or any other organized group that is not government-affiliated. Indian tribes and foreign public entities are not considered private entities.

#### Violations:

#### The aff requires bans governments from alienating resources for non-publicly justified purposes – 1AC Babcock

The PTD offers both an approach for managing an open access commons and a gap-filling tool until a regulatory regime is adopted.507 The doctrine is based on the idea that the “sovereign holds certain common properties in trust in perpetuity for the free and unimpeded use of the general public.”508 The public’s right to access and use trust resources is never lost, and neither the government nor private individuals can alienate or otherwise adversely affect those resources unless for a comparable public purpose.509 The resources the doctrine protects “have long been part of a ‘taxonomy of property’ [that recognizes] the division of natural wealth into private and public property.”510

#### The 1AC defends “sustainable space activities” broadly – that includes activities towards space like rocket launches which aren’t appropriation – Immac is yellow

1AC Aganaba-Jeanty 16 (, T., 2016. Space Sustainability and the Freedom of Outer Space. [online] Taylor & Francis. Available at: <https://www.tandfonline.com/doi/full/10.1080/14777622.2016.1148463> [Accessed 15 December 2021] Timiebi is an assistant professor of Space and Society, in the School for the Future of Innovation in Society, an affiliate faculty with the Interplanetary Initiative, a senior global futures scientist with the Global Futures Lab, and holds a courtesy appointment at the Sandra Day O’Connor College of Law, all at Arizona State University. Timiebi was a post-doctoral fellow and is a senior fellow at the Centre for International Governance Innovation (CIGI) based in Waterloo, Ontario Canada where she focused on environmental and space governance. Timiebi was Executive Director of the World Space Week Association coordinating the global response to the UN 1999 declaration that World Space Week should be celebrated Oct 4-10 annually. She is currently on the Advisory Board for the Space Generation Advisory Council supporting the UN Programme on Space Applications. She is also on the Science Advisory Board of World View Enterprises and the SETI Institute. - pp. 10-13.)-rahulpenu

---Critique of status quo polices for space sustainability

---New regimes key

---Sustainability needs to be in law

---Perm VS Global South Ks

Definitions of space sustainability The Secure World Foundation defines space sustainability as “ensuring that all humanity can continue to use outer space for peaceful purposes and socioeconomic benefit.”39 It is also described as “the ability of all humanity to continue to use outer space for peaceful purposes and socioeconomic benefit over the long term.” It is proposed that, read together, these broad definitions take as their premise that: (1) all humanity thus far is using space for peaceful purposes and for socioeconomic benefit; (2) this use is threatened; (3) measures must be taken to protect it; and (4) all humanity currently possesses the ability, in the sense of having a skill or the capacity, to ensure space sustainability for peaceful purposes. Under this conceptualization, the negative effect of not using space sustainably is primarily economic.40 Bearing in mind the governmental origins of space exploitation, where market economics did not play a primary role in decision making, the growing focus on the economic perspective in space affairs acknowledges Carolyn Deere’s opinion that problems emerge in the international domain from an absence of powerful economic interests.41 Of course, as more space applications are developed, economic interests become more prevalent in that market protectionism then underlies the rationales for many positions taken. Space sustainability is also conceptualized as defining good behavior, its boundaries, and disincentives for negative behavior in space.42 Space sustainability then becomes a much more limited political concept calling for specific measures to strengthen norms.43 Some notable examples follow: An International Code of Conduct—the European Union proposed a non-binding voluntary code whose purpose is “security, safety, sustainability” for all space activities providing for general measures on space operations and space debris.44 The Scientific and Technical Subcommittee of UNCOPUOS working group objective of establishing guidelines for the long-term sustainability of outer space activities. Proposed International Civil Aviation Organization for Space—the establishment of an international organization focused on space safety and the establishment of binding safety standards similar to the International Civil Aviation Organization.45 Industry efforts for a global space situational awareness database Group of Governmental Experts (GGE) on Transparency and Confidence Building Measures. Depending on the forum for discussion and in line with the previously mentioned initiatives, the concept of space sustainability is also used interchangeably with the following: (1) space security, which entails access to space and freedom from threats;46 (2) space stability addressing space situational awareness;47 (3) space safety, which is protection from all unreasonable levels of risk (primarily protection of humans or human activities);48 and (4) responsible uses of space.49 These all reflect the two components of space sustainability as described by the founder of Secure World Foundation: “the first is the physical environment, which includes management of space debris, electromagnetic and physical crowding and congestion, and space weather.... The second component is the political environment, and includes promoting stability and preventing conflict between nations.”50 Bearing this in mind and notwithstanding the potential confusion caused by the interchangeability of terms used, at the core of all proposals conceptualizing space sustainability or related concepts are the notions that: (1) space assets are kept safe and secure, and that the assets are not harmed or interfered with; (2) peaceful space activities continue as free from purposeful/intentional or unintentional harmful interference; (3) the space environment is preserved for peaceful uses; and (4) international cooperative efforts are required. These four points are understood to be the current core conditions for and of space sustainability. It must be acknowledged that space sustainability, in this context, is severed from the ecological roots of sustainable development. Rationale for space sustainability The proposed baseline conditions for the current conception for space sustainability coincide with Gallagher’s analysis of the logic for space cooperation as “Space Governance for Global Security” where all space actors seek “to secure the space domain for peaceful use; to protect space assets from all hazards; and to derive maximum value from space for security, economic, civil, and environmental ends.”51 Based on this understanding, the current conception of and rationale for space sustainability ties more clearly to global security than to sustainable development. This logic emphasizes that “the more different countries, companies, and individuals depend on space for a growing array of purposes, the more they need equitable rules, shared decision-making procedures, and effective compliance mechanisms to maximize the benefits that they all can gain from space, while minimizing risks from irresponsible space behaviors or deliberate interference with legitimate space activities.”52 While it is acknowledged that such a need exists, the difficulty in reaching agreement on how to bring it about is one reason why some states are more focused on producing a dialogue on long-term sustainability. This is seen in the proliferation of reports outlining best practices and options that enhance sustainability through increased information sharing, as well as a focus on technical issues rather than on the creation of any new legal regimes. To minimize some of the risks of non-sustainable space use, Weeden53 proposes a three-pillar technical approach to space sustainability: (1) debris mitigation; (2) debris removal; and (3) space traffic management. This is conjoined with an immediate need for data in support of conjunction assessment and collision avoidance. This emphasis on data sharing/collection includes enabling research into potential solutions to the problem of space debris, and enhancing transparency and cooperation among states. Weeden also suggests that this narrow approach to space sustainability serves both to educate space actors about the severity of the space debris problem and to provide stability to reduce the likelihood of conflict. A common approach to data also serves as verification for a potential code of conduct in space, setting the stage for future space governance models. These proposals follow the logic of sustainability for global security. While this logic is in line with the dominant conceptualization of benefit sharing and freedom of outer space, the position taken in this article is that it does not adequately speak to sustainability from the perspective of aspirant space states. To do so requires a significantly broader discussion and solutions aimed towards aligning space law and policy with the sustainable development paradigm, if understood as being an inclusive paradigm and not focused on the individualistic/self-interested nature of the current conception of sustainable development. A systemic, sustainable development law approach calls for a conscious engagement with the web of overlapping social, environmental, cultural, and legal frameworks, as well as cultural considerations, economic policies, expectations, players, and interests.54 Bearing in mind current U.S. space policy,55 such a broad overarching objective may not be achievable as part of the dialogue on the “Long Term Sustainability of Outer Space Activities,” but U.S. policy regarding preservation of the space environment nevertheless offers insights because international initiatives congruent with it are likely to garner the most support. Schrogl56 proposed that sustainability is rendered to threats and risks to satellite operations. This approach acknowledges the intersection of multiple issue areas: environment, security, mobility, knowledge, resources, and energy. This intersection of issue areas is more akin to the wider discourse of sustainability development of and on the Earth, and prompts a discussion of value to emerging and aspirant space actors. Otherwise, the dominant conceptualization of space sustainability removes any focus upon providing for the needs of those not among the most advanced space nations. This problem is highlighted in Peter and Rathgeber’s definition of space sustainability: Sustainable space activities can be seen as activities (in space, from space, through space and towards space) that meet the needs of the present space actors without comprising the ability of future generations to meet their own needs of performing space related operations safely.57 Peter and Rathgeber claim that the emergence of new institutional space actors, particularly from the south, is putting a greater pressure on the space environment and that the participation of the south in space sustainability efforts is unsatisfactory.58 Yet, the role of less-advanced nations in sustainability initiatives is more so on the receiving end in that advanced nations seek to engage newcomers to space during the early phase of the development of future directives and codes of conduct for sustainable space activities; that is,not really to seek their input, but to ensure compliance by the less-advanced nations.59 Their space activities are judged as either threats to or consistent with space sustainability, rather than as part of articulating the content of space sustainability.60 This indicates that, for national space programs of established space nations, a truly international focus on space sustainability is not a priority**.** It is interesting to note, at this juncture in the discussion, a fundamental provision proposed by a group of developing states during the development of the U.N. Space Benefits Declaration.61 (1) All States should pursue their activities in Outer Space with due regard to the need to preserve Outer Space, in such a way as not to hinder its continued utilization and exploration. (2) States should pay attention to all aspects related to the protection and preservation of the Outer Space environment, especially those potentially affecting the Earth’s environment. (3) States with relevant space capabilities and with programs for the utilization and exploration of outer space should share with developing countries on an equitable basis the scientific and technological knowledge necessary for the proper development of programs oriented to the more rational utilization and exploration of Outer Space.62 Paragraph 3 is fundamental and truly revealing when read in the light of the analysis of Schrogl.63 Schrogl claims that the declaration takes up the problem of space debris, which might endanger future space utilization to a significant extent. However, he also states that “the wish [of the Developing countries] to be informed about debris prevention measures voiced. . . is reasonable but actually needs no mentioning since these technological developments are discussions and documented publicly to the greatest extent.”64

#### Vote negative for limits – their interpretation justifies affs banning any government from appropriating space – that skirts the core topic controversy of what private entities specifically should do and kills uniqueness because national appropriation is already prohibited – unlimited topics incentivize obscure affs that negs won’t have prep on – limits are key to reciprocal prep burden – extra T creates a slippery slope that incentivizes Frankenstein affs with infinite additional planks to circumvent neg links

## 1NC

#### Xi is consolidating unprecedented political power – that’s only possible with strong PLA support

Chang 21 [(Gordon, columnist, author and lawyer, has given briefings at the National Intelligence Council, the CIA, and the State Department, JD from Cornell Law School) “China Is Becoming a Military State,” Newsweek, 1/14/2021] JL

At this moment, the Communist Party is taking back power from all others in society, including the State Council, and the military is gaining influence inside Party circles.

Why is the People's Liberation Army making a comeback? The answer lies in succession politics.

Xi Jinping was selected the top leader because he was not identified with any of the main factional groupings—like the Communist Youth League of Hu Jintao or the Shanghai Gang of Jiang—that dominated Party politics. Xi, in short, was the least unacceptable choice to the Party's squabbling factional elders.

Xi, once chosen, apparently decided that in order to rule, he needed a base, so he made certain officers the core of his support. As longtime China watcher Willy Lam told Reuters in 2013, Xi Jinping's faction is the military.

And with the help of the military, Xi has accumulated almost unprecedented political power, ending the Party's two-decade-old consensus-driven system and replacing it with one-man rule.

As Wang, a professor at the Georgia Institute of Technology, notes, Xi, with the amendments to the National Defense Law, is demonstrating his power of "leading everything and everyone." He is wrapping that effort in a "rule by law" move that is formalizing his perch at the top of the Chinese political system.

How is Xi using his newfound power? There is a hint in the National Defense Law amendments. These changes, Fisher tells us, "increase the powers of the CMC to mobilize the civilian sector for wartime and to better authorize the CMC to engage in foreign military exercises to defend China's 'development interests.'" As such, the changes "point to China's ambition to achieve 'whole nation' levels of military mobilization to fight wars, and give the CMC formal power to control the future Chinese capabilities for global military intervention."

"The revised National Defense Law also embodies the concept that everyone should be involved in national defense," reports the Communist Party's *Global Times*, summarizing the words of an unnamed CMC official. "All national organizations, armed forces, political parties, civil groups, enterprises, social organizations and other organizations should support and take part in the development of national defense, fulfill national defense duties and carry out national defense missions according to the law."

That sounds like Xi is getting ready to pick even more fights with neighbors—and perhaps the United States. On January 5, he ordered People's Liberation Army generals and admirals to be prepared to "act at any second."

Why would Xi want to start a war? "This is really indicative of there being instability in China, and Mr. Xi seeking to consolidate power around himself. ...The new National Defense Law essentially removes the alternative power base of the premier of the State Council, in this case Li Keqiang, from interfering with Mr. Xi's own power ambitions," said Charles Burton of the Ottawa-based Macdonald-Laurier Institute to John Batchelor, the radio host, earlier this month. As Burton noted, the amendments to the National Defense Law undermine Premier Li Keqiang, the head of the State Council and long-standing rival to Xi.

"I think this really gives the green light for him to dispatch the military on any pretext that he feels is necessary to defend his power," Burton says. "China is becoming a military state."

#### The plan alienates the PLA – they view space dominance as the linchpin of China’s legitimacy – specifically, public-private tech development is key

Economic Times 20 [(Economic Times, Indian daily newspaper, internally cites Dean Cheng, Senior Research Fellow at the Heritage Foundation and the Davis Institute for National Security and Foreign Policy, former analyst in the International Security and Space Program at the Office of Technology Assessment, BA in Politics from Princeton University) “China attempting to militarize space as it seeks to modernize its military power,” 8/31/2020] JL

The Jamestown Foundation, a US think-tank, hosted a webinar on August 19 entitled "China's Space Ambitions: Emerging Dimensions of Competition." One presenter, Dean Cheng, Senior Research Fellow at The Heritage Foundation, noted that Beijing's space programme is linked to China's central concept of comprehensive national power. "This is basically how the Chinese think about how they rack and stack, how they compare with other countries."

China recognises that military power is important, but it is not the only factor in being a great power. Cheng drew a parallel with the former USSR, where military power alone did not ensure survival of that communist state. Other comprehensive national power factors are political unity, economic power, diplomatic strength, science and technology, and even culture. "Space touches every one of these aspects in comprehensive national power, and that is a part of why Chinese see space as so important."

Indeed, a strong space industrial complex will generate benefits that ripple through the rest of China's economy. Furthermore, he said space achievements "promote pride within China, especially for the Chinese Communist Party (CCP) ... It's symbolic of how far China has come," he said, and "it gives the CCP legitimacy".

China is pushing into space services, including satellite launches, satellite applications and Earth observation/satellite imagery for others. Satellite customers include Belarus, Laos, Pakistan and Venezuela, for example, attracting hard currency and influence. Cheng said most underestimate the impact this has, as such countries grow almost totally dependent on Chinese equipment, assets and training over time. Incidentally, China could have manufactured back doors into these systems for foreigners to allow it access.

Mark Stokes, Executive Director at the US-based Project 2049 Institute think-tank, said in the same webinar that PLA requirements have always been fundamental to development of Chinese space capabilities. Potential PLA space missions in support of joint warfighting in a crisis include targeting (battlefield surveillance, electronic reconnaissance and ocean surveillance), communications, PNT services (obtaining target data, navigation information, navigation support and timing services), space jamming (encompassing space communications, radar, electro-optical and PNT) and space protection.

Stokes said the end of 2015 was "significant" for Chinese space efforts because consolidation of end-users under the PLA's Strategic Support Force (PLASSF) occurred, specifically within the Space Systems Department. In terms of developing and meeting requirements, the PLASSF is now "much more efficient," the American analyst posited.

Indeed, China created its space force in 2015, just a few months after Russia. After formally establishing its Space Force in December 2019, the US is still getting its equivalent off the ground. Cheng said both China and Russia have been pushing to militarise space, even though such a term is probably meaningless given that 95 per cent of space technology has dual applications for both military and civilian use. Certainly, outer space can no longer be viewed as a sanctuary.

Stokes said that "not much has changed really in terms of the space launch infrastructure and the launch, tracking and control of space ... but they are now integrated with end-users, and that is going to have an effect on making the whole system more efficient."

China has freedom of action in space, and the creation of the PLASSF and consolidation of space/counter-space research, development and acquisition, as well as training and operations, have benefitted from a single integrated command. The PLA's ability to interfere with American military operations in places like Taiwan will continue to grow yearly.

Cheng said, "The Chinese see future war as revolving around joint operations, which are not just land, air and sea forces." They also include the outer space and electronic warfare domains, which are necessary for information dominance." China, therefore, wishes to deny an adversary like the US the use of space, plus it needs to give the Chinese military every advantage.

China has therefore developed the ability to target hostile space-based assets (from the ground or space) and their all-important data-links. Indeed, jamming and electronic warfare complement anti-satellite weapons (which China has already tested), any of which can achieve effective mission kills against US and allied satellites. Stokes has not yet ascertained which agency is responsible for satellite kinetic kills, but it could well be the PLA Rocket Force, which is traditionally very tightly controlled by the Central Military Commission.

A detailed report entitled China's Space and Counter-space Capabilities and Activities, prepared for the US-China Economic and Security Review Commission, was published on March 30. Its authors, Mark Stokes, Gabriel Alvarado, Emily Weinstein and Ian Easton, summarised China's counter-space capabilities as follows.

"China has an operational counter-space capability that will evolve through 2020 and out to 2035. These capabilities include anti-satellite kinetic kill vehicles (KKV) and space electronic countermeasures ... On the non-kinetic side, the PLA has an operational ground-based satellite electronic countermeasures capability designed to disrupt adversary use of satellite communications, navigation, search and rescue, missile early warning and other satellites through use of jamming."

China obtained its first ground-based satellite jammers from Ukraine in the late 1990s, but it has developed its own solutions since then. "The PLA is capable of carrying out electronic countermeasures to disrupt, deny, deceive or degrade space services. Jamming prevents users from receiving intended signals and can be accomplished by attacking uplinks and downlinks.

The PLA and defence industry are developing and deploying jammers capable of targeting satellite communications over a large range of frequencies, including dedicated military communication bands. The PLASSF also has advanced cyber capabilities that could be applied in parallel with counter-space operations."

Nonetheless, the report asserted that the US still assumed a technological lead in space.

"China also is carrying out research, development and testing on potential space-based counter-space systems. The PLASSF and defense industry have carried out advanced satellite maneuvers and are likely testing orbital technologies that could be applied to counter-space operations." The PLASSF Network Systems Department probably oversees satellite jamming operations.

#### That factionalizes the CCP and emboldens challenges to Xi – the PLA is increasingly powerful and not unconditionally subservient

Simpson 16 [(Kurtis, Centre Director with Defence Research and Development Canada, has been conducting research on China’s leadership, Communist Party politics, the People’s Liberation Army and foreign policy for over 30 years,Master’s Degree and a Ph.D from York University, previously served as an intelligence analyst at the Privy Council Office and leader of the Asia Research Section at the Department of National Defence’s Chief Defence Intelligence (CDI) organization) “China’s Re-Emergence: Assessing Civilian-Military Relations In Contemporary Era – Analysis,” Eurasia Review, 12/21/2016] JL

Paralleling divided loyalties between Chinese Party, military and government bodies, one must also recognize that within each, factions exist, based upon generational, personal, professional, geographic, or institutional allegiances.19 These minor fault lines are most pronounced during crises, and they continue independent of professionalization.20 As was demonstrated by the civil-military dynamics of the Chinese government’s suppression of student demonstrators, both divisions and allegiances of interests emerged with respect to how to contain this situation and factional interests largely determined which troops would carry out the orders, who commanded them, what civilian Party leaders supported the actions, and who would be sanctioned following the mêlée. A consequence of factionalism within the PLA is that the Party’s control mechanisms (particularly because rule of law and constitutional restraints on the military are weak) needs to be robust to control not only a single military chain of command but (particularly during crises) perhaps more than one. This is not likely the case. A review of the evidence indicates the military’s influence, on the whole, is increasing, and the Party’s control decreasing.

On one level, the Party clearly controls the military as the Central Military Commission or CMC (the highest military oversight body in the PRC) is chaired by a civilian, President Xi Jinping. Moreover, the PLAs representation on formal political decision-making bodies (such as the Politburo Standing Committee, the Politburo, the Central Committee, and the NPC) has decreased over the years, but this does not necessary equate to a reduced level of influence. For example, the two Vice-Chairman of the CMC are now military generals, as are the remaining other eight members. Irrespective of institutional membership, military leaders retain considerable say. Personal interactions and informal meetings with senior party elites provide venues to sway decisions. They do, also, hold important places on leading small groups dedicated to issues like Taiwan and other security questions, such as the South China Seas.21

In a similar vein, other methods of Party influence, as exercised through political commissars, party committees, and discipline inspection commissions are no longer empowered to enforce the ideological dictates of a paramount leader. In the face of diffuse reporting chains, competing allegiances, and often effective socialization by the military units they are supposed to be watching over, most do not provide the Party guardian and guidance function once so pervasive.

While perhaps overstated, Paltiel’s observation that “…China’s energies over the past century and half have given the military a prominent and even dominant role in the state, preempting civilian control and inhibiting the exercise of constitutional authority” is likely now truer than ever before in history.22 While still loyal to the party as an institution, the PLA is not unconditionally subservient to a particular leader and retains the resources to enter the political arena if (at the highest levels) a decision is made to do so.

The civilian-military trend lines evident in China since the end of the Cultural Revolution affirm that the symbiotic nature of the Party-PLA relationship has morphed in important respects since the late 1960s. The promotion of professionalism, a reduced role for ideological indoctrination, an increasing bifurcation of civil-military elites, and growing state powers (complete with divided loyalties and continued factionalism) has complicated the political landscape informing how the CCP interacts with the PLA. If, as postulated, we have moved from a fused, ‘dual role elite’ model to one of ‘conditional compliance’ in which the military actually holds a preponderance of the power capabilities and where its interests are satisfied through concessions, bargaining, and pay-offs, empirical evidence should reflect this. A review of China’s three major leadership changes since the transition from the revolutionary ‘Old Guard’ to the modern technocrats confirms this.

Formally anointed and legitimized by Deng in 1989, Jiang assumed leadership without military credentials and few allies, viewed by many as a ‘caretaker’ Party Secretary in the wake of the Tiananmen Massacre. Despite his limitations, Jiang was well versed in the vicissitudes of palace politics. Informed by a high political acumen, he immediately promoted an image as an involved Commander-in-Chief, personally visiting all seven military regions, a sign of commitment not made by either the likes of Mao or Deng. Symbolic gestures like this were bolstered by his providing incentives to the PLA, such as: consistent raises in the defence budget; funds for military modernization; as well as equipment, logistics, and augmented R&D.23

Referred to as the ‘silk-wrapped needle,’ Jiang marshalled Party resources to not only reward, but to punish.24 His institutional authority over appointments enabled him to manipulate factions, dismiss those who opposed him, enforce new rigid retirement standards, and promote loyalists. A delicate equilibrium was established during the early-1990s until his semi-retirement in 2004,25 where Jiang guaranteed military priorities such as supporting ‘mechanization’ and an ‘information-based military’ (promoting the concept of RMA with Chinese characteristics) in exchange for the PLA backing of his legacy contributions to Marxist Leninist Mao Zedong thought with the enshrinement of his “Three Represents” doctrine.

Like Jiang, Hu Jintao’s succession was the product of negotiation, compromise, and concessions. While neither opposed by the PLA, nor supported by the military ‘brass,’ Hu was a known commodity, having served as Vice-President (1998) and CMC Vice-Chairman since 1999. He was deemed acceptable until proven otherwise. In the shadow of Jiang (who retained the position of CMC Chair until 2004), Hu did not exert the same kind of influence in, nor engender the same kind of deference from, China’s military, but equally proved capable of fostering a pragmatic relationship with the army which ensured its interests, and in so doing, legitimized his leadership position.

Ceding much of the military planning and operational decisions to the PLA directly, Hu played to his strengths and focused upon national security issues (such as the successful resolution of SARs in China), which bolstered his credibility as a populist leader among the masses, indirectly increasing his power within both the military and the Party. Additionally, he focused upon foreign military security affairs (most notably, North Korea-US negotiations), which enabled him to link his personal political agenda with the military’s latest ambitions.

In according the military a distinct place in China’s national development plan, supporting China’s rise, and ensuring its vital interests, Hu recognized the military’s evolving requirement to ‘go global’ and its worldwide interests in non-combat operations, such as peacekeeping and disaster relief, as well as stakes in the open seas, outer space, and cyberspace as interest frontiers with no geographic boundaries.26 Under the slogan of ‘China’s historical mission in the new phase of the new century’ and his acquiescence to the PLA’s stated requirements ‘to win local wars under modern conditions’ by funding new technology acquisition, Hu received the army’s formal recognition for his contributions to military thought based upon “scientific development” which informed a “strategic guiding theory,” resulting in a new operational orientation for China’s military. Emulating his predecessor, Hu won ‘conditional compliance’ from the PLA by successfully bartering military needs and wants for the army’s support and endorsement of his political tenure. This was not done outside of self-interest. Hu, as did Jiang, skillfully coopted, fired, and promoted select Generals to serve his greater ends, and he did this through varied means. Ultimately, however, it was done in a manner acceptable to the military.

Xi Jinping’s rise to power in 2012, while replicating the ‘horse-trading’ of Jiang and Hu, marks a fundamental departure in leadership style. Often described as a transformative leader, Xi is openly critical of his predecessors and rails against earlier periods where reform stalled and corruption grew.27 An advocate of ‘top-level design,’ incrementalism is being supplanted by a massive attempt to centralize all aspects of the CCP’s power, which includes a major restructuring of the economy, government, administration, and military.

Nicknamed “the gun and the knife” as a slight for his attempts to simultaneously control the army, police, spies, and the ‘graft busters,’ Xi’s power appears uncontested at present. Nevertheless, he is also viewed as ‘pushing the envelope too far’ and endangering the equilibrium which has been established between the Party and PLA over the past 25 years. For example, only two years into his mandate, he fostered a Cult of Personality, “the Spirit of Xi Jinping” which was officially elevated to the same standing as that of Mao and Deng, by comparison, foundational figures in Chinese history. His open attacks of political ‘enemies’ (most notably Zhou Yongkang, a Politburo Standing Committee member and former security czar) breeds fear among almost every senior official, all of whom are vulnerable on some point. Equally true, an unprecedented anti-corruption campaign is inciting comrades to turn on comrades, not unlike a massive game of prisoner’s dilemma.

Nowhere is the pressure for reform greater than in the PLA. Xi advocates administering the army with strictness and austerity, promoting frugality and obedience. At his direction, “mass-line educational campaigns” designed to “rectify work style” through criticism and self-criticism are being implemented.28 Ideological and political building is now equated with army building, as a means of ensuring the Party’s uncontested grip over the troops ideologically, politically, and organizationally. Select military regions (those opposite Taiwan and adjacent to the South China Seas) and commanders from those regions are witnessing favoritism and promotion at the expense of others. Moreover, a new “CMC Chairmanship Responsibility System” has been instituted, which directly calls into question the support of some of Xi’s senior-most generals.

A ‘hardliner’ by nature, Xi recognizes that he must earn the support of the PLA. New military priorities he supports include: accelerating modernization; Joint Command and C4ISR; training; talent management, as well as equipment and force modernization. That said, his goal of achieving the Chinese dream of building a “wealthy, powerful, democratic, civilized, and harmonious socialist modernized nation” by 2021, the 100th anniversary of the founding of the CCP, is exceptionally ambitious. It will require endless commitments to competing interests in a period of economic stagnation and global economic downturn. Should the PLA come to believe they are not first in line for government largess, support for Xi could erode very quickly.29

#### Xi will lash out to preserve cred in the SCS – US draw-in ensures extinction

Mastro 20 [(Oriana Skylar, Assistant Professor of Security Studies at Georgetown University's Edmund A. Walsh School of Foreign Service, Resident Scholar at the American Enterprise Institute) “Military Confrontation in the South China Sea,” Council on Foreign Relations, 5/21/2020] JL

The risk of a military confrontation in the South China Sea involving the United States and China could rise significantly in the next eighteen months, particularly if their relationship continues to deteriorate as a result of ongoing trade frictions and recriminations over the novel coronavirus pandemic. Since 2009, China has advanced its territorial claims in this region through a variety of tactics—such as reclaiming land, militarizing islands it controls, and using legal arguments and diplomatic influence—without triggering a serious confrontation with the United States or causing a regional backlash. Most recently, China announced the creation of two new municipal districts that govern the Paracel and Spratly Islands, an attempt to strengthen its claims in the South China Sea by projecting an image of administrative control. It would be wrong to assume that China is satisfied with the gains it has made or that it would refrain from using more aggressive tactics in the future. Plausible changes to China’s domestic situation or to the international environment could create incentives for China’s leadership to adopt a more provocative strategy in the South China Sea that would increase the risk of a military confrontation.

The United States has a strong interest in preventing China from asserting control over the South China Sea. Maintaining free and open access to this waterway is not only important for economic reasons, but also to uphold the global norm of freedom of navigation. The United States is also at risk of being drawn into a military conflict with China in this region as a result of U.S. defense treaty obligations to at least one of the claimants to the contested territory, the Philippines. China’s ability to control this waterway would be a significant step toward displacing the United States from the Indo-Pacific region, expanding its economic influence, and generally reordering the region in its favor. Preventing China from doing so is the central objective of the U.S. National Security Strategy and the reason the Indo-Pacific is the U.S. military’s main theater of operations. For these reasons, the United States should seek ways to prevent Chinese expansion, ideally while avoiding a dangerous confrontation and being prepared to deftly manage any crises should they arise.

China considers the majority of the South China Sea to be an inalienable part of its territory. Exercising full sovereignty over this area is a core component of President Xi Jinping’s “China Dream.” China does not accept or respect the sovereignty claims of Brunei, Indonesia, Malaysia, the Philippines, Taiwan, or Vietnam in this region. Although China has been cautious in pressing its claims thus far, three developments could convince Xi that China should be more assertive.

Xi could feel compelled to accelerate his timeline in the South China Sea to maintain his consolidated position within the Chinese Communist Party (CCP), particularly if the political situation in Hong Kong worsens, peaceful reunification with Taiwan becomes less likely, or domestic criticism of his management of the novel coronavirus outbreak increases. With China’s economic growth for 2020 projected to hit only 1.2 percent—the lowest since the mid-1970s—Xi could find it necessary to demonstrate strength while Beijing deals with internal fallout from the pandemic. China has already declared two new administrative districts in the South China Sea in April 2020 and has escalated its criticism of U.S. freedom of navigation operations (FONOPs) in the area. Moreover, with expectations that the first stage of China’s military modernization efforts will be completed in 2020, Xi could become more confident that China would succeed in pressing its claims militarily, especially if the United States is distracted internally with managing the coronavirus pandemic or its aftermath.

## 1NC

#### Climate change makes water shortages inevitable – that causes hydro-political conflict escalation which goes nuclear

Jamail 19 [(Dahr, writes for *Truthout* about climate change issues, recipient of the 2008 Martha Gellhorn Prize for Journalism, frequent guest on *Democracy Now!*) “The World Is on the Brink of Widespread Water Wars,” Truth Out, 2/11/2019] JL

Mark’s words should be a call to attention, and a call to action. The plight of farmers in Australia illustrates a larger reality: As planetary temperatures continue to increase and rainfall patterns shift due to human-caused climate disruption, our ability to grow crops and have enough drinking water will become increasingly challenged, and the outlook is only going to worsen.

The most recent United Nations Intergovernmental Panel on Climate Change report warned of increasingly intense droughts and mass water shortages around large swaths of the globe.

But even more conservative organizations have been sounding the alarm. “Water insecurity could multiply the risk of conflict,” warns one of the World Bank’s reports on the issue. “Food price spikes caused by droughts can inflame latent conflicts and drive migration. Where economic growth is impacted by rainfall, episodes of droughts and floods have generated waves of migration and spikes in violence within countries.”

Meanwhile, a study published in the journal Global Environmental Change, looked at how “hydro-political issues” — including tensions and potential conflicts — could play out in countries expected to experience water shortages coupled with high populations and pre-existing geopolitical tensions.

The study warned that these factors could combine to increase the likelihood of water-related tensions — potentially escalating into armed conflict in cross-boundary river basins in places around the world by 74.9 to 95 percent. This means that in some places conflict is practically guaranteed.

These areas include regions situated around primary rivers in Asia and North Africa. Noted rivers include the Tigris and Euphrates, the Indus, the Nile, and the Ganges-Brahmaputra.

Consider the fact that 11 countries share the Nile River basin: Egypt, Burundi, Kenya, Eritrea, Ethiopia, Uganda, Rwanda, Sudan, South Sudan, Tanzania and the Democratic Republic of Congo. All told, more than 300 million people already live in these countries, — a number that is projected to double in the coming decades, while the amount of available water will continue to shrink due to climate change.

For those in the US thinking these potential conflicts will only occur in distant lands — think again. The study also warned of a very high chance of these “hydro-political interactions” in portions of the southwestern US and northern Mexico, around the Colorado River.

Potential tensions are particularly worrisome in India and Pakistan, which are already rivals when it comes to water resources. For now, these two countries have an agreement, albeit a strained one, over the Indus River and the sharing of its water, by way of the 1960 Indus Water Treaty.

However, water claims have been central to their ongoing, burning dispute over the Kashmir region, a flashpoint area there for more than 60 years and counting.

The aforementioned treaty is now more strained than ever, as Pakistan accuses India of limiting its water supply and violating the treaty by placing dams over various rivers that flow from Kashmir into Pakistan.

In fact, a 2018 report from the International Monetary Fund ranked Pakistan third among countries facing severe water shortages. This is largely due to the rapid melting of glaciers in the Himalaya that are the source of much of the water for the Indus.

To provide an idea of how quickly water resources are diminishing in both countries, statistics from Pakistan’s Islamabad Chamber of Commerce and Industry from 2018 show that water availability (per capita in cubic meters per year) shrank from 5,260 in 1951, to 940 in 2015, and are projected to shrink to 860 by just 2025.

In India, the crisis is hardly better. According to that country’s Ministry of Statistics (2016) and the Indian Ministry of Water Resources (2010), the per capita available water in cubic meters per year was 5,177 in 1951, and 1,474 in 2015, and is projected to shrink to 1,341 in 2025.

Both of these countries are nuclear powers. Given the dire projections of water availability as climate change progresses, nightmare scenarios of water wars that could spark nuclear exchanges are now becoming possible.

#### Asteroid mining solves water access – only NEOs are sufficiently proximate and hydrated – independently, storing launch fuel on asteroids reduces space debris – turns case

Tillman 19 [(Nola Taylor, has been published in Astronomy, Sky & Telescope, Scientific American, New Scientist, Science News (AAS), Space.com, and Astrobiology magazine, BA in Astrophysics) “Tons of Water in Asteroids Could Fuel Satellites, Space Exploration,” Space, 9/29/2019] JL

When it comes to mining space for water, the best target may not be the moon: Entrepreneurs' richest options are likely to be asteroids that are larger and closer to Earth.

A recent study suggested that roughly 1,000 water-rich, or hydrated, asteroids near our planet are easier to reach than the lunar surface is. While most of these space rocks are only a few feet in size, more than 25 of them should be large enough to each provide significant water. Altogether, the water locked in these asteroids should be enough to fill somewhere around 320,000 Olympics-size swimming pools — significantly more than the amount of water locked up at the lunar poles, the new research suggested.

Because asteroids are small, they have less gravity than Earth or the moon do, which makes them easier destinations to land on and lift off from. If engineers can figure out how to mine water from these space rocks, they could produce a source of ready fuel in space that would allow spacecraft designers to build refuelable models for the next generation of satellites. Asteroid mining could also fuel human exploration, saving the expense of launching fuel from Earth. In both cases, would-be space-rock miners will need to figure out how to free the water trapped in hydrated minerals on these asteroids.

"Most of the hydrated material in the near-Earth population is contained in the largest few hydrated objects," Andrew Rivkin, an asteroid researcher at Johns Hopkins University Applied Physics Research Laboratory in Maryland, told Space.com. Rivkin is the lead author on the paper, which estimated that near Earth asteroids could contain more easily accessible water than the lunar poles.

According to the United Nations Office for Outer Space Affairs, more than 5,200 of the objects launched into space are still in orbit today. While some continue to function, the bulk of them buzz uselessly over our heads every day. They carry fuel on board, and when they run out, they are either lowered into destructive orbits or left to become space junk, useless debris with the potential to cause enormous problems for working satellites. Refueling satellites in space could change that model, replacing it with long-lived, productive orbiters.

"It's easier to bring fuel from asteroids to geosynchronous orbit than from the surface of the Earth," Rivkin said. "If such a supply line could be established, it could make asteroid mining very profitable."

Hunting for space water from the surface of the Earth is challenging because the planet's atmosphere blocks the wavelength of light where water can be observed. The asteroid warming as it draws closer to the sun can also complicate measurements.

Instead, Rivkin and his colleagues turned to a class of space rocks called Ch asteroids. Although these asteroids don't directly exhibit a watery fingerprint, they carry the telltale signal of oxidized iron seen only on asteroids with signatures of water-rich minerals, which means the authors felt confident assuming that all Ch asteroids carry this rocky water.

Based on meteorite falls, a previous study estimated that Ch asteroids could make up nearly 10% of the near-Earth objects (NEOs). With this information, the researchers determined that there are between 26 and 80 such objects that are hydrated and larger than 0.62 miles (1 km) across.

Right now, only three NEOs have been classified as Ch asteroids, although others have been spotted in the asteroid belt. Most NEOs are discovered and observed at wavelengths too short to reveal the iron band that marks the class. Carbon-rich asteroids, which include Ch asteroids and other flavors, are also darker than the more common stony asteroids, making them more challenging to observe.

Although Ch asteroids definitely contain water-rich minerals, that doesn’t necessarily mean that they will always be the best bet for space mining. It comes down to risk. Would an asteroid-mining company rather visit a smaller asteroid that definitely has a moderate amount of water, or a larger one that could yield a larger payday but could also come up dry?

"Whether getting sure things with no false positives, like the Ch asteroids, is more important or if a greater range of possibilities is acceptable with the understanding that some asteroids will be duds is something the miners will have to decide," Rivkin said.

In addition to estimating the number of large, water-rich asteroids might be available, the study also found that as many as 1,050 smaller objects, roughly 300 feet (100 meters) across, may also linger near Earth. Their small bulk will make them easier to mine because their low gravity will require less fuel to escape from, but they will produce less water overall, and Rivkin expects that the handful of larger space rocks will be the first targets.

"It seems likely that the plan for these companies will be to find the largest accessible asteroid with mineable material with the expectation that it will be more cost-effective than chasing down a large number of smaller objects," Rivkin said. "How 'accessible' and 'mineable material' and 'cost-effective' are defined by each company is to be seen."

#### Private entities are increasing mining now

Robert Garcia 18, currently an LLM Candidate in Cornell Law School's Law, Entrepreneurship & Technology program at Cornell Tech in NYC., “Regulating International Space Mining, an Enormous Industry,” Pacific Council on International Policy, 10-23-2018, https://www.pacificcouncil.org/newsroom/regulating-international-space-mining-enormous-industry

In 2015, the United States passed the U.S. Commercial Space Launch Competitiveness Act. The law’s passage has caused some consternation in the international space exploration community, as it specifically contemplates U.S. citizens performing commercial recovery in what would be a clear appropriation of asteroid and space resources. The law in pertinent part states that such U.S. citizens: shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States (emphasis added). Luxembourg was quick to follow suit, and it passed its own national space mining law styled the Law of 20 July 2017 on the Exploration and Use of Space Resources. This law seeks to parallel U.S. law. However, according to a spokesman for the Luxembourg Ministry of Economy, there is one significant expansion over U.S. law, in that "in the U.S. law, a majority of a company's stakeholders must be in the United States, while the Luxembourg law places no restrictions on stakeholder locations." Critics state that the controlling international law is to be found in the United Nations treaties on space exploration. There are five major space treaties, but two specifically address exploitation of outer space resources. The first is the "Outer Space Treaty" (OST). One hundred nations, including the major spacefaring nations-the United States, China, Japan, and the Russian Federation-have ratified it. A subsequent treaty-the Moon Agreement-provides in a relevant part in Article 11, Paragraph 2, that "[t]he moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means." As of January 2018, relatively few states (18 total) had ratified the Moon Agreement and four additional states had signed but not ratified the agreement. However, of these 22 states, perhaps only Australia, France, and India have the capability to launch space vehicles. The Moon Agreement could have provided some guidance on exploitation of space resources, as it ostensibly prohibits claiming lunar natural resources for private ownership. However, the United States and Luxembourg are not parties to the Moon Agreement, and in consequence the treaty has no "governing effect." Nonetheless, some legal scholars contend that the United States would be in breach of its international obligations if it were to "unilaterally pretend" that its citizens may exercise ownership over extracted space resources, given the absence of recognition of such rights under international law. Clearly it is the stated aim of both the United States and Luxembourg to promote the commercial exploitation of space resources. The two nations’ respective pieces of legislation attempt to provide a legal basis for private citizens to engage in such activities, which some critics would characterize as prohibited "appropriation" under international law. The international community would be well-served by resolving the issue conclusively with an appropriate body of rules. As the technologies advance, we are inexorably headed toward space mining becoming a reality. Whether it will lead to increased resources, providing a net benefit for all people on earth, or serve to increase economic inequality by disproportionately favoring the spacefaring nations remains to be seen.

## 1NC – Case

### Advantage

#### Debris creates existential deterrence by raising the bar for conflict – international norms fail

Miller 7/31 [(Gregory, Chair of the Department of Space Power at the Air Command and Staff College, Ph.D. in Political Science from The Ohio State University) “Deterrence by Debris: The Downside to Cleaning up Space,” Space Policy, 7/31/2021] JL

The danger of kinetic strikes increasing orbital debris is a common theme in the literature, but the positive deterrent effects of some debris are often overlooked. The debris resulting from destroyed satellites, or other space objects, creates a deterrent effect on actors who might otherwise violate international norms and strike at objects in space, either to test their capabilities or as an act of hostilities. This is not deterrence in the traditional sense, of one actor publicly threatening punishment in response to another actor’s unwanted actions. It is not deterrence by denial since the attacker is not damaged and may even achieve its objective. Nor is it deterrence by punishment because the debris itself does not threaten to punish the attacker’s country. But debris can increase the future costs to the aggressor, even if their initial attack succeeds, and thus it has a similar restraining effect on certain behavior. Like the automated response of the U.S. tripwire in West Germany, the threat that debris can pose to state interests acts as a form of deterrence, at least to prevent some actors from taking certain types of actions. Removing the danger of debris will weaken that restraint and thus weaken deterrence, making ASAT tests and hostile actions in space more likely.

Several factors may deter a state from launching kinetic tests or striking against an adversary’s interests in space. For one thing, if a state’s adversary has similar capabilities to destroy objects in space, deterrence would be a function of not wanting to escalate tensions. Although international law only explicitly prohibits states from placing weapons of mass destruction in orbit, international space law, like the Outer Space Treaty [30], does provide a framework for addressing the activities of one state that lead to the damage of another state’s property. Likewise, there are international norms (informal but expected rules of behavior) against the weaponization of space. But these norms seem to be in decline [31], and such norms only deter a state from engaging in certain types of behavior if the state cares about following norms, if it cares about how states perceive its behavior, or if it believes other states are willing to enforce the norms. The beauty of debris as a deterrent is that it does not rely on the enforcement of norms or the credibility of states to succeed.

#### Space militarization is inevitable, public-sector, inevitable, and a result of exploration, not appropriation – only a risk that debris solves – we’re yellow

1AC Perez 21 Veronica Delgado-Perez. 12/14/21. Argument | The Commercialization of Space Risks Launching a Militarized Space Race. https://www.theintlscholar.com/periodical/12/14/2020/analysis-commercialization-space-risk-international-law-military-space-race [Veronica Delgado-Perez is a Staff Writer at The International Scholar.] // CVHS SR

Fundamentals of the Final Frontier It is a geopolitical imperative to determine what, if any, commercial activities and use of extraterrestrial resources are permitted within the confines of international law. Without clear-cut agreements on what activity is recognized by international law, the world will undoubtedly see states push the boundaries ever further in an attempt to gain the edge over geopolitical competitors — even more-so in an era of renewed great power competition. Yet to date, there exists no comprehensive treaty or legal reference to commercial activity in space. However, this should come as no surprise. It has only been since the turn of the century that technology and markets have progressed to the point where commercial space exploration and exploitation has become possible. Only recently have experts and analysts of geopolitics and international law begun to seriously examine questions surrounding the legal framework that would govern extraterrestrial resource-mining and other commercial activities. In the last decade, the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) dealt with commercial aspects in outer space. In one of their last reports, the Committee expressed that the era of the commercial utilization of outer space’s resources is intrinsically linked to the escalation of international competition over resources, which could threaten international peace and security. By encouraging the international community to engage in outer space’s activities for the benefit of humankind as a whole, “some delegations” have expressed that states should avoid the promotion of laws and regulations related to the commercialization of outer space, arguing that it should be considered the heritage of all humanity. In that regard, states must then ensure that domestic law on the use of outer space complies with international space law, which means that states should respect the principles outlined in the Outer Space Treaty and ensure that national regulations do not contravene international provisions. Even though the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (which entered into force in 1967), refers to the exploration and use of outer space, it does not address questions of a commercial nature, which compromises the ability of states and international actors to address new challenges to extraterrestrial activities. In several provisions, the treaty highlights that these activities may be carried out for peaceful purposes and the benefit of all people, reaffirming that outer space is not subject to national appropriation. Were outer space not considered a global commons, that would imply that the resources and results of commercial exploration may fall within the jurisdiction of a country. It is thus incumbent upon Washington — and its commercial enterprises — to demonstrate how American commercial exploration of space benefits other countries and complies with international space law, or otherwise to adhere to the spirit of past treaties which emphasize the impartiality of outer space until such time as the law is clarified. International Law is Adrift in Space The potential benefits of commercial space exploration cannot be ignored. From an economic standpoint, the space industry would generate a significant economic boon for both states and private companies, due to the abundance and variety of resources — particularly scarce minerals that are difficult to extract on Earth. As one example of the vastness of resources held in outer space, one asteroid has the potential to contain more than the total supply of platinum extracted throughout the history of mankind. It may very well open the door to an advanced era of space navigation, building extraterrestrial infrastructure that facilitates the exploration and use of space’s resources, and extra-planetary human habitation. Inevitably, there are significant drawbacks to the commercialization of space exploration. These can vary, for instance, from the commercial dominance of space’s natural resources only by those states with the technical and financial capital to support space missions, to geopolitical competition over extraterrestrial resources that threatens world peace and security, to the potential for the monopolization of extraterrestrial resources by states and private companies. As was the case during the Cold War, the Soviet Union and the United States began a Space Race in which they struggled to achieve supremacy in space exploration and domination of science. Today, the number of space powers has increased thanks to continual advancements in flight, combustion, and fueling technologies. In the three decades since the end of the Cold War, technologically advanced countries like China, Japan, and France which previously had no space program have successfully navigated to the top tier of space-faring agencies and programs. In 2018, the U.S. allocated $41 billion to space programs, followed by China at $5.8 billion, and Russia at $3.1 billion. Collectively, the three major space powers control almost 65% of the global industry, showing space powers are monopolizing space and reinforcing the inequality gap between states that do not have sufficient economic and technological capacity to invest. With new actors on the game stage, conflicts of interest may arise. There is a risk that each actor adopts a kind of short-term Realist approach to space policy — one which is driven by self-interest in reaping the greatest benefits of extraterrestrial exploration and commercialization while controlling access to others. If unmitigated, states may choose to militarize outer space to gain a strategic edge over competitors and adversaries. This process has already begun. Under the Trump administration, the Pentagon established the U.S. Space Force as a new branch of the Armed Forces to protect the country and allied interests in space. Already, Delta 4 — one of the U.S. Space Force’s missions — conducts strategic and theater missile warnings, manages weapon systems, and provides information to missile defense forces. The measure shows that for the U.S., outer space is not only a domain of scientific exploration but has the potential to become increasingly securitized. With the impending expiration of the Strategic Arms Reduction Treaty (START) between the U.S. and Russia on February 5, 2021, a number of security dilemmas could arise. If the world’s two largest nuclear powers do not edge toward extending the treaty, Washington and Moscow risk returning to the era of unrestricted expansion of launch platforms and strategically-deployed nuclear warheads — potentially with the aid of military infrastructure in space. Although President-elect Biden has expressed his interest in negotiating an extension of New START, how Moscow and Washington might proceed remains an open question. Bilateral progress towards a new arms-control regime would require establishing limits on the number and range of long- and mid-range missiles, establishing measures to limit the expansion of traditional missile deployment to space, and banning the deployment of nuclear weapons and weapons of mass destruction in outer space. More than the risk of the securitization of space, state, and private actors could begin to claim exclusive legal rights over the resources they discover. Indeed, the U.S. Commercial Space Launch Competitiveness Act, which came into force in 2015, expressly recognizes the right of U.S. Citizens to possess, own, transport, use, and sell space resources. By this means, domestic law already acknowledges the legal claim to property by individuals, which is prohibited by international law. Under the Outer Space Treaty, states renounced any traditional form of acquisition of territories and agreed not to foray unilaterally into space to extend their national policies on Earth or to exercise any kind of sovereignty over celestial bodies or resources. The absence of a modern international treaty that addresses these issues should be received with grave concern, as there is significant potential for risk to become reality. Existing UN treaties lack the technological context and foresight to address legal questions regarding the potential for commercial exploration and exploitation of outer space or its resources. During the sixties and seventies, when international instruments like the Outer Space treaty were conceived, the principal aim of states was to support and expand the scale of the state’s national capacity for operation in space and the development of legal instruments to guide state’s international cooperation in the peaceful exploration of outer space. These instruments were never designed to respond to commercial questions over mining or tourism in space, private investment in space activities, or the emergence of non-state private enterprises operating in space. As a result, private enterprises operating in the vacuum of space also float in an unstable legal vacuum which threatens to implode in geopolitical competition. Beyond Stars and States In an increasingly commercial outer space in which there are no set limits to the exploitation of resources or claim to property, states and private companies will inevitably pursue the development of new extraterrestrial industries to suit their geoeconomic interests. If unchecked, the legal protection of outer space as a domain of exploration for the benefit of all humanity would functionally fail. To protect investments and profit from national space industries, states would likely resort to military force to protect and secure private assets. Over time, space would ultimately become a fourth border domain over which states claim, exercise, and defend sovereignty — including through the use of force. The challenge is thus to prevent the circumstances that could lead to space-borne conflict before it is made possible. Notwithstanding, commercial exploration and the use of natural resources need not lead to predation among actors involved in space. The potential rewards — both technological and environmental — that could come from investment in the harvesting of resources in space are immense. International law cannot afford to wait for the security dilemma posed by commercial activity in space to manifest before addressing it but must anticipate and proactively adopt measures to address future issues that govern extraterrestrial human activity. The only remedy for the lack of legal governance over commercial activity in space is the creation of new international laws through a comprehensive international treaty on commercial operations in space. The new treaty must expressly regulate commercial activities by states and private companies, enshrine an international liability and compensation regime covering damages caused with workable sanction provisions, and reinforce norms that restrict any militarization of outer space. The international community should focus its efforts on establishing a legal regime, with mandatory provisions (rather than non-binding resolutions, observations, commentaries, and conclusions) which generate both international responsibility and provide enforceable sanctions in the event of violations. The effort should be borne out by expanding the scope and strengthening the oversight powers of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), rather than creating a new organ with redundant bureaucracy. Beyond the tasks of encouraging space research programs, studying space activities, and addressing legal questions, COPUOS should be granted the necessary powers to perform control and oversight monitoring functions. Experience has taught the international community that cooperative arrangements between states and international organizations can prevent competition for resources from escalating to kinetic conflict. Through cooperation, there is a chance to preserve extraterrestrial resources for future generations, secure an equitable allocation of resources and benefits with a mind to each country’s specific needs, and prevent the expansion of geopolitical conflict to the domain of space. Space powers must recognize the value in partnering with other states to advance the development of space programs more efficiently. It should be clear now that all nations could reap the benefits of collective action, exploration, and commercialization of resources from beyond Earth’s atmosphere while preventing a drawn-out international conflict to the final frontier. The will of states not to jeopardize the fundamental basis of international law must be reflected in coordination and

#### \*State-sponsored programs make militarization inevitable

Nagashiwa 20 [(Jun, Adjunct Professor at the National Defense Academy’s Graduate School of Security Studies in Japan, former Lieutenant General, MA in European Security from Tsukuba University) “The Militarization of Space and its Transformation into a Warfighting Domain,” Sasakawa Peace Foundation, 7/17/2020] JL

In 2018, the United States issued its first National Space Strategy, which recognized that its adversaries had turned space into a warfighting domain[1].Military use of space began with the Sputnik crisis in October 1957[2], which initiated the space race between the U.S. and the Soviet Union. More recently, a growing number of countries are pursuing military uses of space. India conducted an anti-satellite weapons test in March 2019 and Iran launched its first military satellite launch in April. In its reorganization in 2015, the Chinese PLA established the Strategic Support Force, which handles the fields of space, cyber, and the electromagnetic spectrum. Russia also set up an independent Space Force in the same year. In response to these developments, France established the Space Command in September 2019, and the U.S. organized the Space Force last December.

In January 2007, China carried out an anti-satellite destruction test using anti-satellite weapons (ASAT), triggering the development of space as a warfighting domain in the post-Cold War era. China needed to build asymmetric capabilities in space and cyberspace[3]as a response to an expected contingency in the Taiwan Strait. This test created a large amount of space debris and was met with intense international criticism[4]. Although space was used militarily for decades during the Cold War, both the U.S. and the Soviet Union refrained from these kinds of tests because careless physical attacks could have a significant impact on all operations in space[5]. However, China, which is pursuing a strategy of asymmetric warfare, has set foot into this “sanctuary,” and forced the United States to recognize the vulnerability of its space system[6].

Space has enormous potential for not only the development of science and technology, but also for economic growth. Globalized society is increasingly dependent on the space system, and Japan is participating in the U.S.-led Artemis Program, which aims to explore lunar space. China, which aspires to global economic leadership, is also moving to make use of cislunar space[7], and is expected to work with Russia[8]. Non-military competition in acquiring growth resources in space has already begun through the development and use of relevant technologies. Next-generation information and communications technology (ICT), quantum computing and other such technologies will reduce the vulnerability of space systems.

As space becomes a more important resource, increasing the resilience of space systems has become an urgent issue. There were about 20,000 pieces of space debris as of November 2019[9], and more players are set to enter the field with new business models that use a constellation of small, cheaper satellites. As a result, “congestion” in space is expected to become more serious. Furthermore, in addition to kinetic threats like ASAT and physical deterioration, non-kinetic threats like cyberattacks and laser obstruction are becoming more dangerous. The vulnerability of space systems will inevitably increase.

In the June 2020 U.S. Defense Space Strategy, China and Russia are labelled as the biggest operational threats to the U.S. in outer space, and are designated as parties who have weaponized space and turned it into an area of great power competition. Both China and Russia, which prioritize their own usage of space, are criticized for trying to prevent other countries from freely utilizing space[10].

Space is becoming a less stable environment, even as it holds the promise of becoming a new source of human prosperity.

There are growing signs that space is being utilized for security as the concept of the battlefield has changed with advances in technology[11].Technologies to address air and missile threats are a clear example of this. The accuracy and reliability of ballistic missile defense (BMD) systems has improved in recent years, but developments in offensive technologies have outpaced this progress. China and Russia are developing flying object threats that overwhelm defensive reaction capability in Western countries. Hypersonic glide vehicles (HGV), for example, travel at Mach 5 or higher, and missile threats with orbital change capabilities are difficult to intercept.

#### No miscalc – debris hits stations all the time.

Cain ’15 (Fraser; 12/23/15; writer for Universe Today; “How Do Astronauts Avoid Debris”; http://www.universetoday.com/121067/how-do-astronauts-avoid-debris)

So, just how do we keep our space stations, ships and astronauts from being riddled with holes from all of the space junk in orbit around Earth? We revel in the terror grab bag of all the magical ways to get snuffed in space. Almost as much as we celebrate the giant brass backbones of the people who travel there. We’ve already talked about all the scary ways that astronauts can die in space. My personal recurring “Hail Mary full of grace, please don’t let me die in space” nightmare is orbital debris. We’re talking about a vast collection of spent rockets, dead satellites, flotsam, jetsam, lagan and derelict. It’s not a short list. NASA figures there are **21,000 bits of junk** bigger than 10 cm, **500,000 particles** between 1 and 10 cm, and more than **100 million** smaller than 1 cm. Sound familiar, humans? This is our high tech, sci fi great Pacific garbage patch. Sure, a tiny rivet or piece of scrap foil doesn’t sound very dangerous, but consider the fact that astronauts are orbiting the Earth at a velocity of about 28,000 km/h. And the Tang packets, uneaten dehydrated ice cream, and astronaut poops are also traveling at 28,000 km/h. Then think about what happens when they collide. Yikes… or yuck. Here’s the International Space Station’s solar array. See that tiny hole? Embiggen and clarinosticate! That’s a tiny puncture hole made in the array by a piece of orbital crap. The whole station is **pummeled by tiny pieces of space program junk drawer contents**. Back when the Space Shuttle was flying, NASA had to **constantly replace their windows because of the damage they were experiencing** from the orbital equivalent of Dennis the Menace hurling paint chips, fingernail clippings, and frozen scabs.

#### The US would first strike Russia – they could eliminate their nuclear arsenal with a conventional strike

Plesch 18 [(Dan, Director of the Centre for International Studies and Diplomacy, SOAS, University of London) “Could the US win World War III without using nuclear weapons?” The Conversation, 4/19/2018] BC

As the US, Russia and China test each other’s patience and strategic focus, speculation about the chances of a world war has hit a new high. But many of the people seriously engaged in this weighty discussion often get it wrong.

When it comes to estimating military capability, the Western media is principally concerned with the weapons capabilities of weaker states – and it rarely pays much attention to the colossal capability of the US, which still accounts for most of the world’s defence spending.

Any sensible discussion of what a hypothetical World War III might look like needs to begin with the sheer size and force of America’s military assets. For all that China and Russia are arming up on various measures, US commanders have the power to dominate escalating crises and counter opposing forces before they can be used.

Take missile warfare alone. The US Navy already has 4,000 Tomahawk cruise missiles, and the Navy and Air Force are currently taking delivery of 5,000 JASSM conventional cruise missiles with ranges from 200-600 miles. Barely visible to radar, these are designed to destroy “hardened” targets such as nuclear missile silos. Russia and China, by contrast, have nothing of equivalent quantity or quality with which to threaten the US mainland.

The same holds true when it comes to maritime forces. While much is made of Russia’s two frigates and smaller vessels stationed off the Syrian coast, France alone has 20 warships and an aircraft carrier in the Mediterranean – and US standing forces in the area include six destroyers equipped with scores of cruise missiles and anti-missile systems. At the other end of Europe, the Russian military is threatening the small Baltic states, but it is rarely noted that the Russian Baltic fleet is the same size as Denmark’s and half the size of Germany’s.

Meanwhile, China’s aggressively expansionist behaviour in the South China Sea is reported alongside stories of its first aircraft carrier and long-range ballistic missiles. But for all that the Chinese navy is large and growing, according to the International Institute for Strategic Studies, it’s still only numerically equivalent to the combined fleets of Japan and Taiwan, while the US boasts 19 aircraft carriers worldwide if its marine assault ships are included.

But overhanging all this, of course, is the nuclear factor.

Out of the sky

The US, Russia and China are all nuclear-armed; Vladimir Putin recently unveiled a new fleet of nuclear-capable missiles which he described as “invincible in the face of all existing and future systems”, and some have suggested that China may be moving away from its no-first-use policy. This is all undeniably disturbing. While it has long been assumed that the threat of nuclear weapons acts as a deterrent to any war between the major powers, it’s also possible that the world may simply have been riding its luck. But once again, the US’s non-nuclear capabilities are all too often overlooked.

US leaders may in fact believe they can remove Russia’s nuclear deterrent with an overwhelming conventional attack backed up by missile defences. This ability was cultivated under the Prompt Global Strike programme, which was initiated before 9/11 and continued during the Obama years. Organised through the US Air Force’s Global Strike Command, it is to use conventional weapons to attack anywhere on Earth in under 60 minutes.

This is not to say the task would be small. In order to destroy Russia’s nuclear missiles before they can be launched, the US military would need to first blind Russian radar and command and communications to incoming attack, probably using both physical and cyber attacks. It would then have to destroy some 200 fixed and 200 mobile missiles on land, a dozen Russian missile submarines, and Russian bombers. It would then need to shoot down any missiles that could still be fired.

Russia is not well positioned to survive such an attack. Its early warning radars, both satellite and land-based, are decaying and will be hard to replace. At the same time, the US has and is developing a range of technologies to carry out anti-satellite and radar missions, and it has been using them for years. (All the way back in 1985, it shot down a satellite with an F15 jet fighter.) That said, the West is very dependent on satellites too, and Russia and China continue to develop their own anti-satellite systems.

The air war

Russia’s bomber aircraft date back to the Soviet era, so despite the alarm they provoke when they nudge at Western countries’ airspace, they pose no major threat in themselves. Were the Russian and US planes to face each other, the Russians would find themselves under attack from planes they couldn’t see and that are any way out of their range.

US and British submarine crews claim a perfect record in constantly shadowing Soviet submarines as they left their bases throughout the Cold War. Since then, Russian forces have declined and US anti-submarine warfare has been revived, raising the prospect that Russian submarines could be taken out before they could even launch their missiles.

The core of the Russia’s nuclear forces consists of land-based missiles, some fixed in silos, others mobile on rail and road. The silo-based missiles can now be targeted by several types of missiles, carried by US planes almost invisible to radar; all are designed to destroy targets protected by deep concrete and steel bunkers. But a problem for US war planners is that it might take hours too long for their missile-carrying planes to reach these targets – hence the need to act in minutes.

One apparently simple solution to attacking targets very quickly is to fit quick nuclear ballistic missiles with non-nuclear warheads. In 2010, Robert Gates, then serving as secretary of defence under Barack Obama, said that the US had this capability. Intercontinental ballistic missiles take just 30 minutes to fly between the continental US’s Midwest and Siberia; if launched from well-positioned submarines, the Navy’s Tridents can be even quicker, with a launch-to-target time of under ten minutes.

From 2001, the US Navy prepared to fit its Trident missiles with either inert solid warheads – accurate to within ten metres – or vast splinter/shrapnel weapons. Critics have argued that this would leave a potential enemy unable to tell whether they were under nuclear or conventional attack, meaning they would have to assume the worst. According to US Congressional researchers, the development work came close to completion, but apparently ceased in 2013.

Nonetheless, the US has continued to develop other technologies across its armed services to attack targets around the world in under an hour – foremost among them hypersonic missiles, which could return to Earth at up to ten times the speed of sound, with China and Russia trying to keep up.

Missile envy

The remainder of Russia’s nuclear force consists of missiles transported by rail. An article on Kremlin-sponsored news outlet Sputnik described how these missile rail cars would be so hard to find that Prompt Global Strike might not be as effective as the US would like – but taken at face value, the article implies that the rest of the Russian nuclear arsenal is in fact relatively vulnerable.

Starting with the “Scud hunt” of the First Gulf War, the US military has spent years improving its proficiency at targeting mobile ground-based missiles. Those skills now use remote sensors to attack small ground targets at short notice in the myriad counter-insurgency operations it’s pursued since 2001.

If the “sword” of Prompt Global Strike doesn’t stop the launch of all Russian missiles, then the US could use the “shield” of its own missile defences. These it deployed after it walked out of a treaty with Russia banning such weapons in 2002.

While some of these post-2002 missile defence systems have been called ineffective, the US Navy has a more effective system called Aegis, which one former head of the Pentagon’s missile defence programs claims can shoot down intercontinental ballistic missiles. Some 300 Aegis anti-ballistic missiles now equip 40 US warships; in 2008, one destroyed a satellite as it fell out of orbit.

War mentality

In advance of the Iraq war, various governments and onlookers cautioned the US and UK about the potential for unforeseen consequences, but the two governments were driven by a mindset impervious to criticism and misgivings. And despite all the lessons that can be learned from the Iraq disaster, there’s an ample risk today that a similarly gung-ho attitude could take hold.

Foreign casualties generally have little impact on domestic US politics. The hundreds of thousands of Iraqi civilians who died under first sanctions and then war did not negatively impact presidents Clinton or George W. Bush. Neither might the prospect of similar casualties in Iran or North Korea or other states, especially if “humanitarian” precision weapons are used.

But more than that, an opinion poll run by Stanford University’s Scott Sagan found that the US public would not oppose the preemptive use of even nuclear weapons provided that the US itself was not affected. And nuclear Trident offers that temptation.

The control of major conventional weapons as well as WMD needs urgent attention from international civil society, media and political parties. There is still time to galvanise behind the Nobel-winning International Campaign to Abolish Nuclear Weapons and the nuclear ban treaty, and to revive and globalise the decaying arms control agenda of the Organisation for Security and Co-operation in Europe, which played a vital part in bringing the Cold War to a largely peaceful end.

Like the Kaiser in 1914, perhaps Trump or one of his successors will express dismay when faced with the reality a major US offensive unleashes. But unlike the Kaiser, who saw his empire first defeated and then dismembered, perhaps a 21st-century US president might get away with it.

**Successful preemptive strike forces a surrender – solves further escalation**

Sarah **Johnson 17**, "U.S. Nuclear First Strike Policy; Be Afraid", Bill Track 50, https://www.billtrack50.com/blog/in-the-news/u-s-nuclear-first-strike-policy-be-afraid/

The second situation is a [preemptive strike](http://www.dictionary.com/browse/preemptive-strike) — a first-strike attack with nuclear weapons carried out to destroy an enemy’s capacity to respond. Preemptive strikes can be based on the assumption that the enemy is planning an **imminent attack**, but don’t have to be. The methodology behind a preemptive nuclear strike is to attack the enemy’s **strategic nuclear weapon facilities** (missile silos, submarine bases, bomber airfields), command and control sites and storage depots first. By hitting these targets first the enemy will be **so wounded** with **so little of their resources left** that they will be **forced to surrender** with minimal damage to the attacking party.

**Otherwise, Russia will broadly scale up military AI – extinction**

Mike **Rogers 17**, former US Representative from Michigan, chairman of the House Permanent Select Committee on Intelligence, "Artificial intelligence — the arms race we may not be able to control", TheHill, https://thehill.com/opinion/technology/351725-artificial-intelligence-is-the-new-arms-race-we-may-not-be-able-to-control

“Whoever becomes the leader in this sphere will **become ruler of the world**,” [said](https://www.theverge.com/2017/9/4/16251226/russia-ai-putin-rule-the-world) Vladimir Putin. The sphere the President of Russia is referring to is **artificial intelligence** (AI) and his comments should give you a moment of pause. Addressing students at the beginning of our Labor Day weekend, Putin remarked “Artificial intelligence is the future, not only for Russia, but for all humankind,” adding, “It comes with colossal opportunities, but also threats that are difficult to predict.” For once, I find myself in agreement with the President of Russia, but just this once. Artificial Intelligence offers **incredible** promise and **peril**. **Nowhere is this clearer than in the realm of national security**. Today un-crewed systems are a fact of modern warfare. Nearly every country is adopting systems where personnel are far removed from the conflict and wage war by remote control. AI [stands](https://www.nytimes.com/2016/10/26/us/pentagon-artificial-intelligence-terminator.html) to sever that ground connection. Imagine a **fully autonomous Predator or Reaper drone**. Managed by an AI system, the drone could **identify targets**, **determine their legitimacy**, and **conduct a strike** all **without human intervention.** Indeed, the Ministry of Defence of the United Kingdom issued a press [statement](https://www.theverge.com/2017/9/12/16286580/uk-government-killer-robots-drones-weapons) in September that the country “does not possess fully autonomous weapon systems and has no intention of developing them,” and that its weapons systems “will always be under control as an absolute guarantee of human oversight and authority and accountability.” Let’s think smaller. Imagine a tiny insect-sized drone loaded with explosive. Guided by a [pre-programmed AI](https://www.amazon.com/Life-3-0-Being-Artificial-Intelligence/dp/1101946598), it could hunt down a specific target — a politician, a general, or an opposition figure — determine when to strike, how to strike, and if to strike based on its own learning. Howard Hughes Medical Center [recently](https://qz.com/1000011/scientists-attached-an-electronic-backpack-to-a-genetically-modified-dragonfly-and-turned-it-into-a-drone/) attached a backpack to a genetically modified dragonfly and flew it remotely. These examples are, however, where humans are involved and largely control the left and right limits of AI. **Yet, there are examples of AI purposely and independently going beyond programed parameters.** Rogue algorithms led to a [flash crash](http://gizmodo.com/rogue-algorithm-blamed-for-historic-crash-of-the-britis-1787523587) of the British Pound. In 2016, in-game AIs **created super AIs weapons** and [**hunted down**](http://www.kotaku.co.uk/2016/06/03/elites-ai-created-super-weapons-and-started-hunting-players-skynet-is-here) **human players**, and AIs have [**created**](https://www.forbes.com/sites/tonybradley/2017/07/31/facebook-ai-creates-its-own-language-in-creepy-preview-of-our-potential-future/#1cf69787292c) **their own languages** that were **indecipherable to humans**. AIs proved more effective than their human counterparts in producing and catching users in **spear phishing programs**. Not only did the AIs create more content, they successfully [captured](https://www.blackhat.com/docs/us-16/materials/us-16-Seymour-Tully-Weaponizing-Data-Science-For-Social-Engineering-Automated-E2E-Spear-Phishing-On-Twitter.pdf) more users with their deception. While seemingly simple and low stakes in nature, **extrapolate these scenarios into more significant and risky areas and the consequences become much greater.** Cybersecurity is no different. Today we are focused on the hackers, trolls, and cyber criminals (officially sanctioned and otherwise) who seek to penetrate our networks, steal our intellectual property, and leave behind malicious code for activation in the event of a conflict. Replace the individual with an AI and imagine how fast hacking takes place; networks against networks, at machine speed all without a human in the loop. Sound far-fetched? **It’s not**. In 2016, the Defense Advanced Research Projects Agency held an AI on AI capture the flag contest called the [Cyber Grand Challenge](https://www.youtube.com/watch?v=qSgYu3w3DMM) at the DEF CON event. AI networks against AI networks. In August of this year the founders of 116 AI and robotics companies signed a letter petitioning the United Nations [to ban](https://www.theverge.com/2017/8/21/16177828/killer-robots-ban-elon-musk-un-petition) lethal autonomous systems. Signatories to this letter included Google DeepMind’s co-founder Mustafa Suleyman and Elon Musk who, in response to Putin’s quote [tweeted](https://twitter.com/elonmusk/status/904638455761612800), “Competition for AI superiority at national level most likely cause of WW3 imo (sic)”. AI is not some far off future challenge. It is a challenge today and one with which we must grapple. I am in favor of fielding any system that enhances our national security, but we must have an open and honest conversation about the implications of AI, the consequences of which **we do not**, **and may not**, **fully understand**. This is not a new type of bullet or missile. This is a potentially **fully autonomous system** that even with human oversight and guidance will make its own decisions on the battlefield and in cyberspace. How can we ensure that the system does not **escape our control?** How can we prevent such systems from falling into the hands of terrorists or insurgents? Who controls the source code? How and can we build in so-called impenetrable kill switches? AI and AI-like systems are slowly being introduced into our arsenal. Our adversaries, China, Russia, and others are also introducing AI systems into their arsenals as well. Implementation is happening faster than our ability to fully **comprehend the consequences.** Putin’s new call spells out a new arms race. **Rushing to AI weapon systems without guiding principles is a dangerous**. It risks an **escalation** that we do not fully understand and may not be able to control. The cost of limiting AI intelligence being weaponized [**could vastly exceed**](https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf) **all of our nuclear proliferation efforts to date**. More troubling, the **consequences of failure are equally existential.**

**No space war – insurmountable barriers and everyone has an interest in keeping space peaceful**

**Dobos 19** [(Bohumil Doboš, scholar at the Institute of Political Studies, Faculty of Social Sciences, Charles University in Prague, Czech Republic, and a coordinator of the Geopolitical Studies Research Centre) “Geopolitics of the Outer Space, Chapter 3: Outer Space as a Military-Diplomatic Field,” Pgs. 48-49] TDI

Despite the theorized potential for the achievement of the terrestrial dominance throughout the utilization of the ultimate high ground and the ease of destruction of space-based assets by the potential space weaponry, the utilization of space weapons is with current technology and no effective means to protect them far from fulfilling this potential (Steinberg 2012, p. 255). In current global international political and technological setting, the utility of space weapons is very limited, even if we accept that the ultimate high ground presents the potential to get a decisive tangible military advantage (which is unclear). This stands among the reasons for the lack of their utilization so far. Last but not the least, it must be pointed out that the states also develop passive defense systems designed to protect the satellites on orbit or critical capabilities they provide. These further decrease the utility of space weapons. These systems include larger maneuvering capacities, launching of decoys, preparation of spare satellites that are ready for launch in case of ASAT attack on its twin on orbit, or attempts to decrease the visibility of satellites using paint or materials less visible from radars (Moltz 2014, p. 31). Finally, we must look at the main obstacles of connection of the outer space and warfare. The first set of barriers is comprised of physical obstructions. As has been presented in the previous chapter, the outer space is very challenging domain to operate in. Environmental factors still present the largest threat to any space military capabilities if compared to any man-made threats (Rendleman 2013, p. 79). A following issue that hinders military operations in the outer space is the predictability of orbital movement. If the reconnaissance satellite's orbit is known, the terrestrial actor might attempt to hide some critical capabilities-an option that is countered by new surveillance techniques (spectrometers, etc.) (Norris 2010, p. 196)-but the hide-and-seek game is on. This same principle is, however, in place for any other space asset-any nation with basic tracking capabilities may quickly detect whether the military asset or weapon is located above its territory or on the other side of the planet and thus mitigate the possible strategic impact of space weapons not aiming at mass destruction. Another possibility is to attempt to destroy the weapon in orbit. Given the level of development for the ASAT technology, it seems that they will prevail over any possible weapon system for the time to come. Next issue, directly connected to the first one, is the utilization of weak physical protection of space objects that need to be as light as possible to reach the orbit and to be able to withstand harsh conditions of the domain. This means that their protection against ASAT weapons is very limited, and, whereas some avoidance techniques are being discussed, they are of limited use in case of ASAT attack. We can thus add to the issue of predictability also the issue of easy destructibility of space weapons and other military hardware (Dolman 2005, p. 40; Anantatmula 2013, p. 137; Steinberg 2012, p. 255). Even if the high ground was effectively achieved and other nations could not attack the space assets directly, there is still a need for communication with those assets from Earth. There are also ground facilities that support and control such weapons located on the surface. Electromagnetic communication with satellites might be jammed or hacked and the ground facilities infiltrated or destroyed thus rendering the possible space weapons useless (Klein 2006, p. 105; Rendleman 2013, p. 81). This issue might be overcome by the establishment of a base controlling these assets outside the Earth-on Moon or lunar orbit, at lunar L-points, etc.-but this perspective remains, for now, unrealistic. Furthermore, no contemporary actor will risk full space weaponization in the face of possible competition and the possibility of rendering the outer space useless. No actor is dominant enough to prevent others to challenge any possible attempts to dominate the domain by military means. To quote 2016 Stratfor analysis, "(a) war in space would be devastating to all, and preventing it, rather than finding ways to fight it, will likely remain the goal" (Larnrani 20 16). This stands true unless some space actor finds a utility in disrupting the arena for others.

#### Use or lose is wrong – It’d be irrational AND never be contemplated by any state.

Kroenig 18 Matthew Kroenig, Associate Professor in the Department of Government and the Edmund A. Walsh School of Foreign Service at Georgetown, The Logic of American Nuclear Strategy: Why Strategic Superiority Matters, Oxford UPress, pp. 137-142

The second, and more common, argument as to why nuclear superiority might be destabilizing is because the state in the position of nuclear inferiority (in this case, America’s adversaries) may feel “use ’em or lose ’em” (UELE) pressures, but this argument also withers under interrogation.26

According to strategic stability theorists, a US nuclear advantage increases the danger of nuclear war because the inferior opponent may fear that its nuclear arsenal is vulnerable to a first strike. Rather, than wait for the adversary (in this case the United States) to move first and wipe out, or seriously blunt, its strategic forces, the argument goes, the inferior state may decide to intentionally launch a nuclear war early in a crisis in order to avoid suffering a disarming first strike. This is the logic most often invoked by strategic stability theorists when they claim that US nuclear advantages are destabilizing. This is also the precise problem identified and inspired by Wohlstetter’s basing studies.

Use ’em or lose ’em enjoys a certain superficial plausibility, but, upon closer inspection, there are two fundamental reasons why the logic simply does not hold up. First, it ignores the fact that the superior state retains a healthy ability to retaliate. So, even if the inferior state is worried about having its nuclear weapons eliminated in a first strike, the decision to launch its nuclear weapons first as a coping mechanism would be a decision to intentionally launch a nuclear war against a state with at least a secure, second-strike capability. This means that even if the inferior state launches its nuclear weapons first, it will be virtually guaranteed to suffer devastating nuclear retaliation. Moreover, given that it is in a situation of extreme inferiority (so extreme that it might even be vulnerable to a preemptive nuclear strike), this would mean intentionally launching a devastating nuclear war that will likely turn out much worse for itself then for its opponent. It would simply be irrational for a state to intentionally launch a nuclear war against a state with an assured retaliatory capability.

#### Space debris creates existential deterrence and a taboo

Bowen 18 [(Bleddyn, lecturer in International Relations at the University of Leicester) “The Art of Space Deterrence,” European Leadership Network, February 20, 2018, https://www.europeanleadershipnetwork.org/commentary/the-art-of-space-deterrence/] TDI

Fourth, the ubiquity of space infrastructure and the fragility of the space environment may create a degree of existential deterrence. As space is so useful to modern economies and military forces, a large-scale disruption of space infrastructure may be so intuitively escalatory to decision-makers that there may be a natural caution against a wholesale assault on a state’s entire space capabilities because the consequences of doing so approach the mentalities of total war, or nuclear responses if a society begins tearing itself apart because of the collapse of optimised energy grids and just-in-time supply chains. In addition, the problem of space debris and the political-legal hurdles to conducting debris clean-up operations mean that even a handful of explosive events in space can render a region of Earth orbit unusable for everyone. This could caution a country like China from excessive kinetic intercept missions because its own military and economy is increasingly reliant on outer space, but perhaps not a country like North Korea which does not rely on space. The usefulness, sensitivity, and fragility of space may have some existential deterrent effect. China’s catastrophic anti-satellite weapons test in 2007 is a valuable lesson for all on the potentially devastating effect of kinetic warfare in orbit.

#### Reject laundry lists – they didn’t read a terminal impact to any of these arguments and you should hold them to arguments substantiated by evidence

#### Off internet – their Eagleman evidence assumes zero internet access ever, but their internal link is far smaller and only about rural areas – Immac is yellow

Dvorsky 15 George Dvorsky 6-4-2015 “What Would Happen If All Our Satellites Were Suddenly Destroyed?” https://io9.gizmodo.com/what-would-happen-if-all-our-satellites-were-suddenly-d-1709006681 (Senior staff reporter at Gizmodo specializing in astronomy, space exploration, SETI, archaeology, bioethics, animal intelligence, human enhancement, and risks posed by AI and other advanced tech.)//Elmer

Lastly, there’s the Kessler Syndrome to consider. This scenario was portrayed in the 2013 film Gravity. In the movie, a Russian missile strike on a defunct satellite inadvertently causes a cascading chain reaction that formed an ever-growing cloud of orbiting space debris. Anything in the cloud’s wake — including satellites, space stations, and astronauts — gets annihilated. Disturbingly, the Kessler Syndrome is a very real possibility, and the likelihood of it happening is steadily increasing as more stuff gets thrown into space. Given these grim prospects, it’s fair to ask what might happen to our civilization if any of these things happened. At the risk of gross understatement, the complete loss of our satellite fleet would instigate a tremendous disruption to our current mode of technological existence — disruptions that would be experienced in the short, medium, and long term, and across multiple domains. Compromised Communications Almost immediately we’d notice a dramatic reduction in our ability to communicate, share information, and conduct transactions. “If our communications satellites are lost, then bandwidth is also lost,” Jonathan McDowell tells io9. He’s an astrophysicists and Chandra Observatory scientist who works out of the Harvard-Smithsonian Center for Astrophysics. McDowell says that, with telecommunication satellites wiped out, the burden of telecommunications would fall upon undersea cables and ground-based communication systems. But while many forms of communication would disappear in an instant, others would remain. All international calls and data traffic would have to be re-routed, placing tremendous pressure on terrestrial and undersea lines. Oversaturation would stretch the capacity of these systems to the limit, preventing many calls from going through. Hundreds of millions of Internet connections would vanish, or be severely overloaded. A similar number of cell phones would be rendered useless. In remote areas, people dependent on satellite for television, Internet, and radio would practically lose all service. “Indeed, a lot of television would suddenly disappear,” says McDowell. “A sizable portion of TV comes from cable whose companies relay programming from satellites to their hubs.” It’s important to note that we actually have a precedent for a dramatic — albeit brief — disruption in com-sat capability. Back in 1998, there was a day in which a single satellite failed and all the world’s pagers stopped working. Get Out Your Paper Maps We would also lose the Global Positioning System. In the years since its inception, GPS has become ubiquitous, and a surprising number of systems have become reliant on it. “Apart from the fact that everyone has forgotten to navigate without GPS in their cars, many airplanes use GPS as well,” says McDowell. Though backup systems exist, airlines use GPS to chart the most fuel-efficient and expeditious routes. Without GPS and telecomm-sats, aircraft controllers would have tremendous difficulty communicating with and routing airplanes. Airlines would have to fall back to legacy systems and procedures. Given the sheer volume of airline traffic today, accidents would be all but guaranteed. Other affected navigation systems would include those aboard cargo vessels, supply-chain management systems, and transportation hubs driven by GPS. But GPS does more than just provide positioning — it also provides for timing. Ground-based atomic clocks can perform the same function, but GPS is increasingly being used to distribute the universal time standard via satellites. Within hours of a terminated service, any distributing networks requiring tight synchronization would start to suffer from “clock drift,” leading to serious performance issues and outright service outages. Such disruptions could affect everything from the power grid through to the financial sector. In the report, “A Day Without Space: Economic and National Security Ramifications,” Ed Morris, the Executive Director of the Office of Space Commerce at the Department of Commerce, writes: If you think it is hard to get work done when your internet connection goes out at the office, imagine losing that plus your cell phone, TV, radio, ATM access, credit cards, and possibly even your electricity. [...] Wireless services, especially those built to CDMA standard, would fail to hand off calls from one cell to the next, leading to dropped connections. Computer networks would experience slowdowns as data is pushed through finite pipelines at reduced bit rates. The same would be true for major networks for communication and entertainment, since they are all IP-based today and require ultra-precise timing to ensure digital traffic reaches its destination. The lack of effective synch would hit especially hard in banking, where the timing of transactions needs to be recorded. Credit card payments and bank accounts would likely freeze, as billions of dollars could be sucked away from businesses. A financial crash is not out of the question. The Loss of Military Capability The sudden loss of satellite capability would have a profound effect on the military. The Marshall Institute puts it this way: “Space is a critical enabler to all U.S. warfare domains,” including intelligence, navigation, communications, weather prediction, and warfare. McDowell describes satellite capability as as the “backbone” of the U.S. military. And as 21st century warfare expert Peter W. Singer from New America Foundation tells io9, “He who controls the heavens will control what happens in the battles of Earth.” Singer summarized the military consequences of losing satellites in an email to us: Today there are some 1,100 active satellites which act as the nervous system of not just our economy, but also our military. Everything from communications to GPS to intelligence all depend on it. Potential foes have noticed, which is why Russia and China have recently begun testing a new generation of anti-satellite weapons, which in turn has sparked the U.S. military to recently budget $5 billion for various space warfare systems. What would happen if we lost access to space? Well, the battles would, as one U.S. military officer put it, take us back to the “pre digital age.” Our drones, our missiles, even our ground units wouldn’t be able to operate the way we plan. It would force a rewrite of all our assumptions of 21st century high tech war. We might have a new generation of stealthy battleships...but the loss of space would mean naval battles would in many ways be like the game of Battleship, where the two sides would struggle to even find each other. Moreover, and as McDowell explains to io9, the loss of satellite capability would have a profound effect on arms control capabilities. Space systems can monitor compliance; without them, we’d be running blind. “The overarching consideration is that you wouldn’t really know what’s going on,” says McDowell. “Satellites provide for both global and local views of what’s happening. We would be less connected, less informed — and with considerably degraded situational awareness.” Compromised Weather Prediction and Climate Science One great thing satellites have done for us is improve our ability to forecast weather. Predicting a slight chance of cloudiness is all well and good, but some areas, like India, Pakistan, and Bangladesh, are dependent on such systems to predict potentially hazardous monsoons. And in the U.S., the NOAA has estimated that, during a typical hurricane season, weather satellites save as much as $3 billion in lives and property damage. There’s also the effect on science to consider. Much of what we know about climate change comes from satellites. As McDowell explains, the first couple of weeks without satellites wouldn’t make much of a difference. But over a ten-year span, the lack of satellites would preclude our ability to understand and monitor such things as the ozone layer, carbon dioxide levels, and the distribution of polar ice. Ground-based and balloon-driven systems would help, but much of the data we’re currently tracking would suddenly become much spottier. “We’re quite dependent on satellites for a global view of what’s happening on our planet — and at a time when we really, really need to know what’s happening,” says McDowell. It’s also worth pointing out that, without satellites, we also wouldn’t be able to monitor space weather, such as incoming space storms. Time to Recover With all the satellites gone, both governmental and private interests would work feverishly to restore space-based capabilities. Depending on the nature of the satellite-destroying event, it could take decades or more to get ourselves back to current operational standards. It would take a particularly long time to recover from a Carrington Event, which would zap many ground-based electronic systems as well. The U.S. military is already thinking along these lines, which is why it’s working on the ability to quickly send up emergency assets, such as small satellites parked in Low Earth Orbit (LEO). Cube satellites are increasingly favored, as an easy-to-launch, affordable, and effective solution — albeit a short-term one. The U.S. Operationally Responsive State Office is currently working on the concept of emergency replenishment and the ability to “rapidly deploy capabilities that are good enough to satisfy warfighter needs across the entire spectrum of operations, from peacetime through conflict.” As for getting full-sized, geostationary satellites back into orbit, that would prove to be a greater challenge. It can take years to built a new satellite, which typically requires a big, costly rocket to get it into space. Lastly, if a Kessler Syndrome wipes out the satellites, that would present an entirely different recovery scenario. According to McDowell, it would take a minimum of 11 years for LEO to clear itself of the debris cloud; any objects below 500 km (310 miles) would eventually fall back to Earth. Thus, we would only be able to start re-seeding LEO in a little over a decade following a Kessler event. Unfortunately, the area above 600 km (372 miles) would remain out of touch for a practically indefinite period of time; objects orbiting at that height tend to stay there for a long, long time. We’d probably lose this band for good — unless we manually removed the debris field, using clean-up satellites or other techniques. It’s worth noting that a single Kessler event could hit the LEO zone or the GEO zone (geosynchronous orbit) but realistically not both; LEO debris could never reach GEO, and vice versa — though a spent rocket in GTO (geosynchronous transfer orbit) or SSTO (supersynchronous transfer orbit) passes through or near both zones and could potentially affect either of them. The spent rockets in GTO do not stay too close to the GEO arc for long due to orbital perturbations, so a GEO Kessler event is very unlikely to be triggered by one of them. Suffice to say, we should probably take the prospect of a Kessler Syndrome more seriously, and be aware of what could happen if we’re no longer able to use these spaces.