# 1NC vs Orange Lutheran AZ

### 1NC – Off

#### 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."

### 1NC – Off

#### CP: The appropriation of outer space by private entities is unjust except for the People’s Republic of China

### 1NC – Off

#### 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

#### **CCP instability causes economic collapse of the global world order**

Wang 19 [Chi, Co-chair of the U.S. - China Policy Foundation and professor of U.S.-China Relations and modern China at Georgetown University) “The US Is Pushing Back Against China. What Happens If We Succeed?” The Diplomat, 4/19/19]  
China is not the Soviet Union. And Xi Jinping is most certainly not Gorbachev. In fact, the Chinese Communist Party has made every effort to learn from the Soviet Union’s downfall what to avoid. Instead of promoting “openness,” China is cracking down on society more than ever before. While Gorbachev called for democratic elections, Xi is working to solidify his personal power, eliminating term limits. Even if Xi and the Communist Party were to fall out of power, who would replace them? There is no Chinese equivalent to Boris Yeltsin and his supporters.  
  
China’s collapse and the fall of the Chinese Communist Party would have to happen differently. And, I fear, it might have more in common with China’s own history than with that of the Soviet Union. I was living in China when the previous regime fell. It was most definitely not a peaceful transition from Nationalist to Communist rule. I witnessed the turmoil and chaos of the Chinese Civil War firsthand. The joy and hope the Chinese felt after World War II ended and we were finally freed from years of Japanese occupation were quickly shattered as the domestic conflict escalated.  
  
With the collapse of the Republic of China came hyperinflation and starvation. Families were displaced and scrambled to find some semblance of shelter or security. There was blood, violence, and death. Americans talk about the scar of their own civil war – brothers killing brothers. China’s was much more recent. I distinctly remember the uncertainty and fear that permeated everything. Most Chinese didn’t care about Nationalist or Communist. They were just trying to make it through. And yet, these normal civilians were forced to face untold hardships as the war raged on around them.  
  
If China once again devolved into economic chaos or violence, the ramifications would only be worse. China currently holds more than one-sixth of the world’s population. And, due to globalization, China’s economy is intertwined with that of the rest of the world more than ever before. China’s collapse, or even decline, would ripple across the Asia-Pacific and the world.

**Economic decline causes global nuclear war**

**Tønnesson 15** [(Stein, Research Professor, Peace Research Institute Oslo; Leader of East Asia Peace program, Uppsala University) “Deterrence, interdependence and Sino–US peace,” International Area Studies Review, Vol. 18, No. 3, p. 297-311, 2015] SJDI

Several **recent works** on China and Sino–US relations **have made** substantial **contributions to the current understanding of how and under what circumstances** a combination of **nuclear deterrence and economic interdependence may reduce the risk of war between major powers**. At least four conclusions can be drawn from the review above: first, those who say that **interdependence may both inhibit and drive conflict** are right. **Interdependence raises the cost of conflict** for all sides **but** **asymmetrical or unbalanced dependencies and negative trade expectations** may **generate tensions leading to trade wars among inter-dependent states that** in turn **increase the risk of military conflict** (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, **decisions for war** and peace **are taken by very few people, who act on the basis of their future expectations**. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. **If leaders** on either side of the Atlantic **begin to seriously fear or anticipate their own nation’s decline** then **they may blame** this on **external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain** respect or **credibility, adopt protectionist policies, and** ultimately **refuse to be deterred by** either **nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly**, i.e. under the instigation of actions by a third party – or against a third party.

Yet as long as there is both nuclear deterrence and interdependence, the tensions **in East Asia** are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. **The greatest risk is not** that **a territorial dispute** leads to war under present circumstances **but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious**. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. **This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so**. **Deterrence could lose its credibility**: one of the two **great powers might gamble that the other yield in a cyber-war or conventional** limited **war**, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

### 1NC – Off

#### CP: The appropriation of outer space by private actors except for tactical intelligence, surveillance and reconnaissance satellites manufactured by Lockheed Martin is unjust.

#### Lockheed Martin’s making next gen space based ISR that unites the armed forces and replaces tactical surveillance platforms

Erwin ’21 [Sandra, covered the military, the Pentagon, Congress and the defense industry for nearly two decades as editor of NDIA’s National Defense Magazine and Pentagon correspondent for Real Clear Defense, “Lockheed Martin pitching mid-size satellite bus to DoD for remote sensing”, 04-13-2021, https://spacenews.com/lockheed-martin-pitching-mid-size-satellite-bus-to-dod-for-remote-sensing/]//pranav

WASHINGTON — Lockheed Martin announced a new line of satellites designed for space-based surveillance. The mid-size satellite bus is aimed at the military market and would be interoperable with military weapons systems such as fighter jets and air defense systems.

The company is pitching the new mid-size satellite as an alternative to tactical surveillance platforms like airplanes and drones. Lockheed Martin’s “tactical intelligence, surveillance and reconnaissance” satellites would give the military a capability to track moving targets from space without having to put people at risk, the company said April 13 in a news release.

A spokesman said Lockheed Martin believes the military can benefit from the lower cost of building and launching satellites, which makes space-based surveillance more affordable. For example, the Army could use satellites to locate targets and images of those targets could be downlinked to commanders on the ground. The Air Force could task satellites to track an area and pass the images directly into the cockpit of an F-35 fighter.

The company said the satellite is based on the LM400 bus — about the size of a small refrigerator — and was intentionally designed to be compliant with open standards used by DoD to connect different platforms so they can share data across land, air, maritime and space domains.

Lockheed Martin sees tactical ISR satellites as playing a central role in the Pentagon’s efforts to connect weapons systems from all military services, an initiative known as “joint all-domain command and control.”

The company said the satellites could be made with remote sensing payloads — such as visual imaging or infrared cameras, or radio-frequency trackers — supplied by DoD or by other vendors.

Rick Ambrose, executive vice president of Lockheed Martin Space, said the ISR satellites can be mass produced at the company’s Gateway Center, a new 3.5 million square-foot satellite development and manufacturing facility in Denver, Colorado.

#### Revisionist powers are reviving polar great power competition in the Arctic which upsets American unipolarity, but space strength in the region checks back

Stokes ’21 [Nathan B., Space Operations Officer United States Navy, “A COOPERATIVE SPACE STRATEGY FOR THE ARCTIC: POLICY, STRATEGY AND OPERATIONAL ASPECTS OF POLAR GREAT POWER COMPETITION”, June 2021, https://apps.dtic.mil/sti/pdfs/AD1151160.pdf]//pranav

The renewal of polar great power competition with the changing Arctic geopolitical and security environment is once again concentrating U.S. national security interests on a region traditionally viewed as an area of cooperation and low-tension. Professor AnneMarie Brady, a Chinese politics, polar politics, and foreign policy expert from the University of Canterbury in New Zealand, characterized polar great powers, in her book China as a Polar Great Power, as “states that exhibit ‘global structural power,’ or the ability to shape governance frameworks in the economic, military, and political-diplomatic sectors.”83 She goes on to state that, “to be considered a polar great power, a state must have high levels of polar scientific capacity and scientific research funding; a significant level of presence in the [Arctic]; and significant economic, military, political, and diplomatic capacity there; as well as a high level of international engagement in polar governance.”84 The emerging political and geostrategic threat to U.S. interests in the Arctic by an expanding and modernized Russian military presence and rising Chinese economic and scientific influence is seeing the Arctic region become a geostrategic flash point for future polar great power competition, where Russia, China, and the United States vie for political and geostrategic influence in a region that has the potential to alter the rules-based international order. A revisionist Russia with a resurgent Arctic presence presents a dynamic security challenge across multiple Geographic Combatant Commands (GCC) that is complex, alldomain, and multi-functional.85 The 2019 DOD Arctic Strategy notes that, “Russia views itself as a polar great power and is the largest Arctic nation by landmass, population, and military presence above the Arctic Circle.”86 The Russian Arctic coastline accounts for approximately 53 percent of the Arctic Ocean coastline, and Russia’s Arctic population of approximately two million people accounts for about half of the population living in the Arctic worldwide. Additionally, among the five Arctic littoral states of Canada, Denmark, Norway, Russia, and the United States, Russia possesses more than half of all the Arctic’s estimated oil and gas resources.87 Recent Russian military reinvestment in the region has witnessed Russian heavy bombers conducting regular air patrols along the coastlines of countries within the region, and U.S. fighter aircraft routinely intercepting Russian military aircraft inside U.S. and Canadian Air Defense Identification Zones. Advanced air and sea-launched long-range precision-strike cruise missiles are being deployed within the region allowing greater standoff ranges well outside of U.S. radar coverage. Additionally, Russia has deployed the Severodvinsk-class guided missile submarine within the region, armed with low radar cross section land-attack cruise missiles.88 These military capabilities are reinforced by Russia “refurbishing Cold War-era bases, setting up new units, opening ports and runways, and deploying radar and air-defense systems. In all, Russia has built 475 military facilities in the Arctic over the past six years [since 2019].”89 Additionally, Russia is aggressively challenging Arctic maritime security through the enforcement of aggressive economic coercion along the NSR counter to international laws. These advances in its Arctic military defense significantly increase Russia’s ability to defend and control a large stretch of the NSR and have the potential for Russia to claim an expanded EEZ that will disrupt the regional balance of power and international economic system.90

A rising China in the region is both an opportunity and challenge for the United States and its partners within the Arctic. In a January 2018 white paper titled “China’s Arctic Policy,” China declared itself a “near-Arctic state” and presented its “Polar Silk Road” economic plan to facilitate economic and social development of the Arctic. The plan emphasized China’s strategic interests within the Arctic and proposed a comprehensive strategy “to understand, protect, develop, and participate in the governance of the Arctic.”91 Although China is not an Arctic state, China was granted Arctic “observer status” within the Arctic Council in 2013.92 As an observerstate, China agreed to recognize the eight Arctic states’ sovereignty, sovereign rights, and jurisdiction in the Arctic.

However, China has also identified the Arctic as an area of “undetermined sovereignty” in which it can assert its political and economic power to influence the regional governance structure. Chinese economic, military, political, and diplomatic influence within the Arctic region provides China strategic access to transpolar shipping routes between Asia and Europe that reduce China’s dependence on southern sea routes that transit regions of U.S. influence and maritime control. China’s geostrategic priorities within the Arctic are focused on security, economic resources, and strategic science.93 In regard to space above the Arctic, Chinese space-related Arctic research focuses on research and development in the earth’s magnetic field, the aurora, all domain awareness, strategic early warning, and space situational awareness (SSA) capabilities to extend China’s operational reach.94 Space analysts have noted that China may seek to improve its SSA capabilities to better identify on-orbit targets and provide accurate engagement criteria to support space defense and counter-orbiting systems.95 China’s President Xi Jinping clarified Chinese interest in the Arctic contending that, “Polar affairs have a unique role in our marine development strategy, and the process of becoming a polar power is an important component of China’s process to become maritime great power.”96 Chinese polar interests are further illustrated in China’s vertical world map that places China at the center of the world with the polar regions dominating to the north and south. The Chinese world view sees itself visually dominating the Asia-Pacific, while sidelining the U.S., and dwarfing the importance of Europe.97 Additionally, in 2015, “the Chinese government announced that the polar regions, the deep seabed, and outer space are China’s ‘new strategic frontiers’ (zhanlüe xin jiangu), strategically important areas from which China will draw the resources needed to become a global power.”98 This increased Chinese interest in the Arctic has witnessed China investing more money in capacity than any other nation within the Arctic region,99 with significant economic investments in Canada, Denmark via Greenland, Iceland, and Norway, and significant investments in Russia’s Arctic oil and gas industry, ports, and infrastructure such as hotels.

As the global balance of power shifts from the unipolarity of U.S. dominance to a multipolar world with great power competition amongst Russia, China, and the United States, American Arctic influence is viewed to be declining as China is increasingly challenging U.S. hegemony across the globe.100 A recent poll by the European Council on Foreign Relations estimated that approximately 52 percent of Swedish respondents and 48 percent of Danish respondents thought in ten years’ time, China would be a stronger power than the United States compared to 29 and 34 percent respectively who thought the United States would maintain its advantage. Moreover, key European allies Great Britain, Germany, and France had even higher percentages of their populations that believed China would overtake the United States with 58, 56, and 62 percent compared to 19, 24, and 18 percent respectively that believed the United States would maintain its advantage.101 This eroding perception of U.S. prestige amongst key European allies and partners must be addressed by the U.S. if it seeks to maintain its regional dominance in Arctic affairs.

#### Squo space capabilities are insufficient, but new civil commercial defense programs that augment and compliment U.S. capabilities build coalition resiliency which counters Sino-Russo rise in the Arctic.

Stokes ’21 [Nathan B., Space Operations Officer United States Navy, “A COOPERATIVE SPACE STRATEGY FOR THE ARCTIC: POLICY, STRATEGY AND OPERATIONAL ASPECTS OF POLAR GREAT POWER COMPETITION”, June 2021, https://apps.dtic.mil/sti/pdfs/AD1151160.pdf]//pranav

The shared imperative and responsibility for space security within the Arctic transcends the capabilities of individual nations, due to limited budgets and competing global requirements. As the most advanced spacefaring nation within the Arctic, the United States will pay disproportionally in providing space operations and associated capabilities to provide increased communications, navigation, and awareness of the Arctic. However, assisting “allies and partners in developing, acquiring, and employing their own space capabilities that complement and augment U.S. capabilities and contribute to coalition space operations”119 can advance U.S. national security interests and build coalition resiliency in the Arctic. In line with the Obama administration’s space policy objectives, and as an evolutionary shift in strategic thinking, U.S. space policy now seeks to increase “allied and partner access to and sharing of national security-related space technologies, information, and equipment required to support cooperative activities when advantageous to U.S. national security interests.”120 This shift in strategic engagement should help build space capacity and capability and expand collective security by enhancing communication, navigation, and awareness within the Arctic if advantageous to their domestic strategic objectives. The realization of the potentiality of collective space security through shared multidomain awareness and an extended communications architecture also demands new approaches to public-private partnerships in the space domain. A 2019 intelligence community threat assessment stated, “We continue to assess that the expansion of the global space industry will further extend space-enabled capabilities and space situational awareness to government, nonstate, and commercial actors in the next several years. All actors will increasingly have access to space-derived information services, such as imagery; weather; communications; and positioning, navigation, and timing (PNT).”121 A collaborative space concept sees this as an opportunity to support and facilitate civil, commercial, defense, and multinational partners and leverage their shared resources and broader situational awareness to enhance Arctic regional security.122 In August 2020, James DeHart, the U.S. Coordinator for the Arctic, stated, “if you look at what is happening in our system over the last couple of months, you will see that we are launching a comprehensive and an integrated diplomatic approach and engagement in the Arctic region,” and that “in a few years, people will look back at this summer [of 2020] and see it as an important pivot point, a turning point, with a more sustained and enduring attention by the United States to the Arctic region.”123 However, although the current geostrategic environment has refocused U.S. attention on the Arctic due to polar great power competition, will the United States translate this to the space domain? For this to occur, the United States must turn intent into action and rhetoric into reality.

#### Arctic war causes WWIII and goes nuclear – causes extinction

Klare ’20 [Michael, The Nation’s defense correspondent, is professor emeritus of peace and world-security studies at Hampshire College and senior visiting fellow at the Arms Control Association in Washington, D.C., “A World War Could Break Out in the Arctic”, 02-11-2020, https://www.thenation.com/article/world/nato-russia-norway/]//pranav

For the soldiers participating in the exercise, the potentially thermonuclear dimensions of Cold Response 2020 may not be obvious. At its start, Marines from the United States and the United Kingdom will practice massive amphibious landings along Norway’s coastline, much as they do in similar exercises elsewhere in the world. Once ashore, however, the scenario becomes ever more distinctive. After collecting tanks and other heavy weaponry “prepositioned” in caves in Norway’s interior, the Marines will proceed toward the country’s far-northern Finnmark region to help Norwegian forces stave off Russian forces supposedly pouring across the border. From then on, the two sides will engage in—to use current Pentagon terminology—high-intensity combat operations under Arctic conditions (a type of warfare not seen on such a scale since World War II). And that’s just the beginning. Unbeknownst to most Americans, the Finnmark region of Norway and adjacent Russian territory have become one of the most likely battlegrounds for the first use of nuclear weapons in any future NATO-Russian conflict. Because Moscow has concentrated a significant part of its nuclear retaliatory capability on the Kola Peninsula, a remote stretch of land abutting northern Norway—any US-NATO success in actual combat with Russian forces near that territory would endanger a significant part of Russia’s nuclear arsenal and so might precipitate the early use of such munitions. Even a simulated victory—the predictable result of Cold Response 2020—will undoubtedly set Russia’s nuclear controllers on edge. To appreciate just how risky any NATO-Russian clash in Norway’s far north would be, consider the region’s geography and the strategic factors that have led Russia to concentrate so much military power there. And all of this, by the way, will be playing out in the context of another existential danger: climate change. The melting of the Arctic ice cap and the accelerated exploitation of Arctic resources are lending this area ever greater strategic significance. ENERGY EXTRACTION IN THE FAR NORTH Look at any map of Europe and you’ll note that Scandinavia widens as it heads southward into the most heavily populated parts of Denmark, Finland, Norway, and Sweden. As you head north, however, it narrows and becomes ever less populated. At its extreme northern reaches, only a thin band of Norway juts east to touch Russia’s Kola Peninsula. To the north, the Barents Sea, an offshoot of the Arctic Ocean, bounds them both. This remote region—approximately 800 miles from Oslo and 900 miles from Moscow—has, in recent years, become a vortex of economic and military activity. Once prized as a source of vital minerals, especially nickel, iron ore, and phosphates, this remote area is now the center of extensive oil and natural gas extraction. With temperatures rising in the Arctic twice as fast as anywhere else on the planet and sea ice retreating ever farther north every year, offshore fossil-fuel exploration has become increasingly viable. As a result, large reserves of oil and natural gas—the very fuels whose combustion is responsible for those rising temperatures—have been discovered beneath the Barents Sea and both countries are seeking to exploit those deposits. Norway has taken the lead, establishing at Hammerfest in Finnmark the world’s first plant above the Arctic Circle to export liquified natural gas. In a similar fashion, Russia has initiated efforts to exploit the mammoth Shtokman gas field in its sector of the Barents Sea, though it has yet to bring such plans to fruition. For Russia, even more significant oil and gas prospects lie further east in the Kara and Pechora Seas and on the Yamal Peninsula, a slender extension of Siberia. Its energy companies have, in fact, already begun producing oil at the Prirazlomnoye field in the Pechora Sea and the Novoportovskoye field on that peninsula (and natural gas there as well). Such fields hold great promise for Russia, which exhibits all the characteristics of a petro-state, but there’s one huge problem: The only practical way to get that output to market is via specially designed icebreaker-tankers sent through the Barents Sea past northern Norway. The exploitation of Arctic oil and gas resources and their transport to markets in Europe and Asia has become a major economic priority for Moscow as its hydrocarbon reserves below the Arctic Circle begin to dry up. Despite calls at home for greater economic diversity, President Vladimir Putin’s regime continues to insist on the centrality of hydrocarbon production to the country’s economic future. In that context, production in the Arctic has become an essential national objective, which, in turn, requires assured access to the Atlantic Ocean via the Barents Sea and Norway’s offshore waters. Think of that waterway as vital to Russia’s energy economy in the way the Strait of Hormuz, connecting the Persian Gulf to the Indian Ocean, is to the Saudis and other regional fossil-fuel producers. THE MILITARY DIMENSION No less than Russia’s giant energy firms, its navy must be able to enter the Atlantic via the Barents Sea and northern Norway. Aside from its Baltic and Black Sea ports, accessible to the Atlantic only via passageways easily obstructed by NATO, the sole Russian harbor with unfettered access to the Atlantic Ocean is at Murmansk on the Kola Peninsula. Not surprisingly then, that port is also the headquarters for Russia’s Northern Fleet—its most powerful—and the site of numerous air, infantry, missile, and radar bases along with naval shipyards and nuclear reactors. In other words, it’s among the most sensitive military regions in Russia today. Given all this, President Putin has substantially rebuilt that very fleet, which fell into disrepair after the collapse of the Soviet Union, equipping it with some of the country’s most advanced warships. In 2018, according to The Military Balance, a publication of the International Institute for Strategic Studies, it already possessed the largest number of modern cruisers and destroyers (10) of any Russian fleet, along with 22 attack submarines and numerous support vessels. Also in the Murmansk area are dozens of advanced MiG fighter planes and a wide assortment of anti-aircraft defense systems. Finally, as 2019 ended, Russian military officials indicated for the first time that they had deployed to the Arctic the Kinzhal air-launched ballistic missile, a weapon capable of hypersonic velocities (more than five times the speed of sound), again presumably to a base in the Murmansk region just 125 miles from Norway’s Finnmark, the site of the upcoming NATO exercise. More significant yet is the way Moscow has been strengthening its nuclear forces in the region. Like the United States, Russia maintains a “triad” of nuclear delivery systems, including intercontinental ballistic missiles (ICBMs), long-range “heavy” bombers, and submarine-launched ballistic missiles (SLBMs). Under the terms of the New Strategic Arms Reduction Treaty (New START), signed by the two countries in 2010, the Russians can deploy no more than 700 delivery systems capable of carrying no more than 1,550 warheads. (That pact will, however, expire in February 2021 unless the two sides agree to an extension, which appears increasingly unlikely in the age of Trump.) According to the Arms Control Association, the Russians are currently believed to be deploying the warheads they are allowed under New START on 66 heavy bombers, 286 ICBMs, and 12 submarines with 160 SLBMs. Eight of those nuclear-armed subs are, in fact, assigned to the Northern Fleet, which means about 110 missiles with as many as 500 warheads—the exact numbers remain shrouded in secrecy—are deployed in the Murmansk area. For Russian nuclear strategists, such nuclear-armed submarines are considered the most “survivable” of the country’s retaliatory systems. In the event of a nuclear exchange with the United States, the country’s heavy bombers and ICBMs could prove relatively vulnerable to pre-emptive strikes as their locations are known and can be targeted by American bombs and missiles with near-pinpoint accuracy. Those subs, however, can leave Murmansk and disappear into the wide Atlantic Ocean at the onset of any crisis and so presumably remain hidden from US spying eyes. To do so, however, requires that they pass through the Barents Sea, avoiding the NATO forces lurking nearby. For Moscow, in other words, the very possibility of deterring a US nuclear strike hinges on its ability to defend its naval stronghold in Murmansk, while maneuvering its submarines past Norway’s Finnmark region. No wonder, then, that this area has assumed enormous strategic importance for Russian military planners—and the upcoming Cold Response 2020 is sure to prove challenging to them. WASHINGTON’S ARCTIC BUILDUP During the Cold War era, Washington viewed the Arctic as a significant strategic arena and constructed a string of military bases across the region. Their main aim: to intercept Soviet bombers and missiles crossing the North Pole on their way to targets in North America. After the Soviet Union imploded in 1991, Washington abandoned many of those bases. Now, however, with the Pentagon once again identifying “great power competition” with Russia and China as the defining characteristic of the present strategic environment, many of those bases are being reoccupied and new ones established. Once again, the Arctic is being viewed as a potential site of conflict with Russia and, as a result, US forces are being readied for possible combat there. Secretary of State Mike Pompeo was the first official to explain this new strategic outlook at the Arctic Forum in Finland last May. In his address, a kind of “Pompeo Doctrine,” he indicated that the United States was shifting from benign neglect of the region to aggressive involvement and militarization. “We’re entering a new age of strategic engagement in the Arctic,” he insisted, “complete with new threats to the Arctic and its real estate, and to all of our interests in that region.” To better protect those interests against Russia’s military buildup there, “we are fortifying America’s security and diplomatic presence in the area…hosting military exercises, strengthening our force presence, rebuilding our icebreaker fleet, expanding Coast Guard funding, and creating a new senior military post for Arctic Affairs inside of our own military.” The Pentagon has been unwilling to provide many details, but a close reading of the military press suggests that this activity has been particularly focused on northern Norway and adjacent waters. To begin with, the Marine Corps has established a permanent presence in that country, the first time foreign forces have been stationed there since German troops occupied it during World War II. A detachment of about 330 Marines were initially deployed near the port of Trondheim in 2017, presumably to help guard nearby caves that contain hundreds of US tanks and combat vehicles. Two years later, a similarly sized group was then dispatched to the Troms region above the Arctic Circle and far closer to the Russian border. From the Russian perspective, even more threatening is the construction of a US radar station on the Norwegian island of Vardø about 40 miles from the Kola Peninsula. To be operated in conjunction with the Norwegian intelligence service, the focus of the facility will evidently be to snoop on those Russian missile-carrying submarines, assumedly in order to target them and take them out in the earliest stages of any conflict. That Moscow fears just such an outcome is evident from the mock attack it staged on the Vardø facility in 2018, sending 11 Su-24 supersonic bombers on a direct path toward the island. (They turned aside at the last moment.) It has also moved a surface-to-surface missile battery to a spot just 40 miles from Vardø. In addition, in August 2018, the US Navy decided to reactivate the previously decommissioned Second Fleet in the North Atlantic. “A new Second Fleet increases our strategic flexibility to respond—from the Eastern Seaboard to the Barents Sea,” said Chief of Naval Operations John Richardson at the time. As last year ended, that fleet was declared fully operational. DECIPHERING COLD RESPONSE 2020 Exercise Cold Response 2020 must be viewed in the context of all these developments. Few details about the thinking behind the upcoming war games have been made public, but it’s not hard to imagine what at least part of the scenario might be like: a US-Russian clash of some sort leading to Russian attacks aimed at seizing that radar station at Vardø and Norway’s defense headquarters at Bodø on the country’s northwestern coast. The invading troops will be slowed but not stopped by Norwegian forces (and those US Marines stationed in the area), while thousands of reinforcements from NATO bases elsewhere in Europe begin to pour in. Eventually, of course, the tide will turn and the Russians will be forced back. No matter what the official scenario is like, however, for Pentagon planners the situation will go far beyond this. Any Russian assault on critical Norwegian military facilities would presumably be preceded by intense air and missile bombardment and the forward deployment of major naval vessels. This, in turn, would prompt comparable moves by the United States and NATO, probably resulting in violent encounters and the loss of major assets on all sides. In the process, Russia’s key nuclear retaliatory forces would be at risk and quickly placed on high alert with senior officers operating in hair-trigger mode. Any misstep might then lead to what humanity has feared since August 1945: a nuclear apocalypse on Planet Earth. There is no way to know to what degree such considerations are incorporated into the classified versions of the Cold Response 2020 scenario, but it’s unlikely that they’re missing. Indeed, a 2016 version of the exercise involved the participation of three B-52 nuclear bombers from the US Strategic Air Command, indicating that the American military is keenly aware of the escalatory risks of any large-scale US-Russian encounter in the Arctic. In short, what might otherwise seem like a routine training exercise in a distant part of the world is actually part of an emerging US strategy to overpower Russia in a critical defensive zone, an approach that could easily result in nuclear war. The Russians are, of course, well aware of this and so will undoubtedly be watching Cold Response 2020 with genuine trepidation. Their fears are understandable—but we should all be concerned about a strategy that seemingly embodies such a high risk of future escalation. Ever since the Soviets acquired nuclear weapons of their own in 1949, strategists have wondered how and where an all-out nuclear war—World War III—would break out. At one time, that incendiary scenario was believed most likely to involve a clash over the divided city of Berlin or along the East-West border in Germany. After the Cold War, however, fears of such a deadly encounter evaporated and few gave much thought to such possibilities. Looking forward today, however, the prospect of a catastrophic World War III is again becoming all too imaginable and this time, it appears, an incident in the Arctic could prove the spark for Armageddon

#### Externally, monitors the climate vis-à-vis constellations

Jewett ’21 [Rachel, Managing Editor of Via Satellite, “Lockheed Martin Prepares to Launch Demo Mission With Mid-Size LM 400 Bus”, 03-05-2021, https://www.satellitetoday.com/innovation/2021/03/05/lockheed-martin-prepares-to-launch-demo-mission-with-mid-size-lm-400-bus/]//pranav

Lockheed Martin is preparing to launch a demonstration mission of the LM 400, a mid-size satellite bus that can support missions to both Low-Earth Orbit (LEO) and Geostationary Orbit (GEO). The launch contract has not yet been announced, but Lockheed Space spokesman Chris Pettigrew tells Via Satellite the mission will be launching soon, as an internal payload technology demonstration with a variety of mission areas, including Earth Observation (EO), communications, and climate monitoring.

The LM 400 is a configurable bus about the size of a refrigerator, and there are 10 variants in the LM 400 series. It is a new part of the company’s lineup of ﬂexible buses including the LM 50 for nanosatellites and the LM 2100 for larger missions. It conforms with Modular Open Systems Architecture (MOSA) and Lockheed Martin’s SmartSat software-defined satellite platform.

“The LM 400 provides an unmatched flexibility to fly any mission from LEO to GEO,” commented Rick Ambrose, executive vice president of Lockheed Martin Space. “Our investment in the LM 400 demonstrates our engineering excellence and is a result of our hybrid architecture approach to meeting customers’ evolving and dynamic mission environments.”

It is designed for constellation architectures and operational tech insertions with high capability at a lower cost point that can support a high monthly production rate.

## Case

### 1NC – cosmic colonialism

1. **Doesn’t solve all of space exploration or launches – public sector still exists or is even stronger post plan which still would have missions which hurts the ozone which the aff doesn’t solve**

#### Framing issue for the cap debate – their Shammas and Holen evidence proves the link but does not justify why capitalism is unsustainable – don’t do that work for them or let them shift or read ev in the 1ar

#### Growth is sustainable – yes absolute decoupling

Hausfather 4/6 [(Zeke, climate scientist and energy systems analyst whose research focuses on observational temperature records, climate models, and mitigation technologies, PhD in climate science from the University of California, Berkeley, former research scientist with Berkeley Earth, senior climate analyst at Project Drawdown, and US analyst for Carbon Brief) “Absolute Decoupling of Economic Growth and Emissions in 32 Countries,” Breakthrough Institute, 4/6/2021] JL

The past 30 years have seen immense progress in improving the quality of life for much of humanity. Extreme poverty — the number of people living on less than $1.90 per day — has fallen by nearly two-thirds, from 1.9 billion to around 650 million. Life expectancy has risen in most of the world, along with literacy and access to education, while infant mortality has fallen. Despite perceptions to the contrary, the average person born today is likely to have access to more opportunities and have a better quality of life than at any other point in human history. Much of this increase in human wellbeing has been propelled by rapid economic growth driven largely by state-led industrial policy, particularly in poor-to-middle income countries.

However, this growth has come at a cost: between 1990 and 2019, global emissions of CO2 increased by 56%. Historically, economic growth has been closely linked to increased energy consumption — and increased CO2 emissions in particular — leading some to argue that a more prosperous world is one that necessarily has more impacts on our natural environment and climate. There is a lively academic debate about our ability to “absolutely decouple” emissions and growth — that is, the extent to which the adoption of clean energy technology can allow emissions to decline while economic growth continues.

Over the past 15 years, however, something has begun to change. Rather than a 21st century dominated by coal that energy modelers foresaw, global coal use peaked in 2013 and is now in structural decline. We have succeeded in making clean energy cheap, with solar power and battery storage costs falling 10-fold since 2009. The world produced more electricity from clean energy — solar, wind, hydro, and nuclear — than from coal over the past two years. And, according to some major oil companies, peak oil is upon us — not because we have run out of cheap oil to produce, but because demand is falling and companies expect further decline as consumers increasingly shift to electric vehicles.

The world has long been experiencing a relative decoupling between economic growth and CO2 emissions, with the emissions per unit of GDP falling for the past 60 years. This is the case even in countries like India and China that have been undergoing rapid economic growth. But relative decoupling alone is inadequate in a world where global CO2emissions need to peak and decline in the next decade to give us any chance at limiting warming to well below 2℃, in line with Paris Agreement targets.

Thankfully, there is increasing evidence that the world is on track to absolutely decouple CO2 emissions and economic growth — with global CO2 emissions potentially having peaked in 2019 and unlikely to increase substantially in the coming decade. While an emissions peak is just the first and easiest step towards eventually reaching the net-zero emissions required to stop the world from continuing to warm, it demonstrates that linkages between emissions and economic activity are not an immutable law, but rather simply a result of our current means of energy production.

In recent years we have seen more and more examples of absolute decoupling — economic growth accompanied by falling CO2 emissions. Since 2005, 32 countries with a population of at least one million people have absolutely decoupled emissions from economic growth, both for terrestrial emissions (those within national borders) and consumption emissions (emissions embodied in the goods consumed in a country). This includes the United States, Japan, Mexico, Germany, United Kingdom, France, Spain, Poland, Romania, Netherlands, Belgium, Portugal, Sweden, Hungary, Belarus, Austria, Bulgaria, El Salvador, Singapore, Denmark, Finland, Slovakia, Norway, Ireland, New Zealand, Croatia, Jamaica, Lithuania, Slovenia, Latvia, Estonia, and Cyprus. Figure 1, below, shows the declines in territorial emissions (blue) and increases in GDP (red).  
To qualify as having experienced absolute decoupling, we require countries included in this analysis to pass four separate filters: a population of at least one million (to focus the analysis on more representative cases), declining territorial emissions over the 2005-2019 period (based on a linear regression), declining consumption emissions, and increasing real GDP (on a purchasing power parity basis, using constant 2017 international $USD). We chose not to include 2020 in this analysis because it is not particularly representative of longer-term trends, and consumption and territorial emissions estimates are not yet available for many countries.

There is a wide range of rates of economic growth between 2005-2019 among countries experiencing absolute decoupling. Somewhat counterintuitively, there is no significant relationship between the rate of economic growth and the magnitude of emissions reductions within the group. While it is unlikely that there is not at least some linkage between the two factors, there are plenty of examples of countries (e.g., Singapore, Romania, and Ireland) experiencing both extremely rapid economic growth and large reductions in CO2 emissions.

One of the primary criticisms of some prior analyses of absolute decoupling is that they ignore leakage. Specifically, the offshoring of manufacturing from high-income countries over the past three decades to countries like China has led to “illusory” drops in emissions, where the emissions associated with high-income country consumption are simply shipped overseas and no longer show up in territorial emissions accounting. There is some truth in this critique, as there was a large increase in emissions embodied in imports from developing countries between 1990 and 2005. After 2005, however, structural changes in China and a growing domestic market led to a reversal of these trends; the amount of emissions “exported” from developed countries to developing countries has actually declined over the past 15 years.

This means that, for many countries, both territorial emissions and consumption emissions (which include any emissions “exported” to other countries) have jointly declined. In fact, on average, consumption emissions have been declining slightly faster than territorial emissions since 2005 in the 32 countries we identify as experiencing absolute decoupling. Figure 2, below, shows the change in consumption emissions (teal) and GDP (red) between 2005 and 2019.  
There is a pretty wide variation in the extent to which these countries have reduced their territorial and consumption emissions since 2005. Some countries — such as the UK, Denmark, Finland, and Singapore – have seen territorial emissions fall faster than consumption emissions, while the US, Japan, Germany, and Spain (among others) have seen consumption emissions fall faster. Figure 3 shows reductions in consumption and territorial emissions for each country, with the size of the dot representing the size of the population in 2019.  
Absolute decoupling is possible. There is no physical law requiring economic growth — and broader increases in human wellbeing — to necessarily be linked to CO2 emissions. All of the services that we rely on today that emit fossil fuels — electricity, transportation, heating, food — can in principle be replaced by near-zero carbon alternatives, though these are more mature in some sectors (electricity, transportation, buildings) than in others (industrial processes, agriculture).

This is not to say that infinite economic growth is desirable (or even possible), particularly given that the global population is expected to start to shrink by the end of the 21st century (and well before that in most currently wealthy countries). There will be some tradeoffs between economic growth and climate mitigation — particularly if the world is to meet ambitious mitigation targets. But it is possible to envision a world that is prosperous, equal, and at net-zero emissions; indeed, all of the future emissions scenarios used by the Intergovernmental Panel on Climate Change (IPCC) do just that.

#### Capitalism solves environmental crisis - industrial development, technological advances, and any alternative fails

Zitelmann 20 [(Dr. Rainer, a historian and sociologist. He is also a world-renowned author, successful businessman and real estate investor. Zitelmann has written a total of 24 books and has a doctorate in political science and sociology) “‘System Change Not Climate Change’: Capitalism And Environmental Destruction” Forbes, 7/13/2020] BC

The Price Of Growth—Destruction Of The Environment?

But isn’t there a price for this growth: environment devastation? Of course, nobody would deny that industrialization causes environmental problems. But the assertion that growth automatically leads to ever accelerating environmental degradation is simply false. Yale University’s Environmental Performance Index (EPI) uses 16 indicators to rank countries on environmental health, air quality, water, biodiversity, natural resources and pollution. These indicators have been selected to reflect both the current baseline and the dynamics of national ecosystems. One of the Index’s most striking findings is that there is a strong correlation between a state’s wealth and its environmental performance. Most developed capitalist countries achieve high environmental standards. Those countries with the worst EPI scores, such as Ethiopia, Mali, Mauritania, Chad and Niger, are all poor. They have both low investment capacity for infrastructure, including water and sanitation, and tend to have weak environmental regulatory authorities.

Contrary to prevailing perceptions, industrial development and technological advances have contributed significantly to relieving the burden on the environment. Both Indur Goklany in his book The Improving State of the World and Steven Pinker in chapter ten (“The Environment”) of his book Enlightenment Now demonstrate that we are not only living longer, healthier lives in unprecedented prosperity, but we are also doing so on a comparatively clean planet.

Researchers have confirmed that economic freedom—in other words, more capitalism—leads to higher, not lower, environmental quality.

Every year, the Heritage Foundation compiles its Index of Economic Freedom, which analyzes individual levels of economic freedom, and thus capitalism, in countries around the world. The Heritage Foundation’s researchers also measure the correlation between each country’s environmental performance and its economic freedom. The results couldn’t be clearer: the world’s most economically free countries achieve the highest environmental performance rankings with an average score of 76.1, followed by the countries that are “mostly free,” which score an average of 69.5. In stark contrast, the economically “repressed” and “mostly unfree” countries all score less than 50 for environmental performance.

Is Government The Best Solution To Environmental Problems?

Anti-capitalists frequently claim that central government is the best solution to environmental problems. And there is no doubt that state regulations to safeguard the environment are important. But state regulations, cited by anti-capitalists as a panacea for environmental issues, often achieve the opposite of what they were intended to do. Hardly any other country in the world touts its green credentials as much as Germany. According to even the most conservative estimates, Germany’s so-called “energy transition” is set to cost a total of almost €500 billion by 2025.

But the results of this massive investment is sobering, as an analysis by McKinsey reveals, “Germany is set to miss several key energy transition targets for the year 2020, and the country’s high power supply security is at risk unless new generation capacity and grid infrastructure are built in time for the coal and nuclear exit and electrification of transportation networks is accelerated.”

For decades, environmentalists in Germany focused on shutting down nuclear power plants. However, the phasing out of nuclear power has left Germany in a poor position in terms of CO2 emissions compared to other countries. It is not without good reason that Germany’s energy policy has been described as the dumbest in the world.

The latest generation of nuclear power plants are much safer than their predecessors. Despite what environmentalists might claim, impartial calculations have confirmed that it is impossible to meet the world’s energy needs from solar and wind power alone. Enlightened environmentalists are therefore now calling for nuclear power to be rightfully included in the fight against climate change. And yet, this is precisely what is being prevented in Germany by politicians—not capitalism. This example, just one of many, shows that government environmental policy is often ineffective. In some instances, it even achieves the opposite of what it was originally intended to, i.e. it exacerbates existing environmental problems.

It is also wrong to think that capitalism necessarily leads to ever greater waste of limited natural resources. Just take the smartphone for example, one of the most environmentally friendly of capitalism’s many achievements. With just one small device, a whole plethora of devices that used to consume resources in the past, such as the telephone, camera, calculator, navigation system, dictation machine, alarm clock, flashlight and many others, have been replaced. Smartphones also help to reduce the consumption of paper as many people choose not to take notes on paper and, for example, use their iPhone instead of a calendar to enter appointments.

Those who call for “system change” instead of “climate change” do not usually say which system they would prefer. All they are really sure of is that any new system should not be based on free market economics and that the state should play the decisive role. The simple fact is that socialism has failed in every country every time it has been tried—and socialism has damaged the environment more than any capitalist system. Murray Feshbach documents examples of the environmental destruction wrought by socialism in his book Ecological Disaster. Cleaning Up the Hidden Legacy of the Soviet Regime. As the book progresses through chapters such as “A Nuclear Plague,” “Dying Lakes, Rivers, and Inland Seas” and “Pollution of the Air and Land,” it becomes clear that this non-capitalist system was responsible for the greatest environmental destruction in history. Anti-capitalists may well reply that they do not want a system like the Soviet Union. And yet, they cannot name a single real-world system—at any time in the history of mankind—that provides better environmental solutions than capitalism.

#### Key to solve disease.

Jackson ‘16 (Kerry, Pacific Research Institute; 12/19/16; Free Market Policies Needed To Incentivize Creation Of New Life-Saving Treatments; https://www.pacificresearch.org/article/free-market-policies-needed-to-incentivize-creation-of-new-life-saving-treatments/)

“Our strongest antibiotics don’t work and patients are left with potentially untreatable infections,” Director Dr. Tom Frieden said when the CDC issued its warning. He asked doctors, hospitals and public health officials to “work together” to “stop these infections from spreading.” The 2014 Report to the President expressed a similar concern: “The evolution of antibiotic resistance is now occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.” For those thinking this sort of thing shouldn’t be happening when medical science is more advanced than can almost be conceived, be assured that it is. And unless there are public policy interventions, it’s likely to get worse. “More and more microorganisms will continue to gain resistance to the current drug therapies because (antimicrobial resistance, or AMR) is basic evolution,” Wayne Winegarden writes in the Pacific Research Institute’s newly-released report “Incenting the Development of Antimicrobial Medicines to Address the Problem of Drug-Resistant Infections.” The International Federation of Pharmaceutical Manufacturers says the problem is caused by “a dearth of new antibiotic medicines.” At the same time that there’s been an increase in AMR, there has been “a sharp decline in the development of new antibiotic medicines.” The group reports that only two new classes of antibiotics have been discovered in the last three decades compared to 11 in the previous 50 years. The answers to many medical problems are still not within reach of researchers. But the hazards of AMR can be diminished. Winegarden suggests we begin with public health campaigns that encourage handwashing, which he calls a highly effective and low-cost way to reduce the spread of infection. He further recommends policy that would address the problem of antibiotic overuse and greater use of vaccines to cut the incidents of infection. But Winegarden’s primary concern is establishing the correct incentives for developing new antimicrobial medicines that would be effective against AMR microorganisms. He’s specifically referring to policies “based on a thorough understanding of the disincentives that are currently inhibiting their development.” “These disincentives are well-recognized,” he writes. “Despite the medical need, and despite the generally strong return on investment for many other drug classes, the return on investment for developing new antimicrobial medicines (particularly antibiotics) is too low.” Producing a new drug is a grinding and expensive endeavor. It can take 10 to 15 years to develop a single prescription drug that is introduced to the market, and a company can spend as much as $5.5 billion on research and development for each medication that is eventually approved and prescribed. Less than 2 percent of all projects launched to create new drugs succeed. This is not an environment in which pharmaceutical companies can get too amped up about pursuing new treatments. Yet new drug approvals increased over the last decade. Don’t look for a surge of antimicrobial drugs in that pipeline, though. Winegarden says that particular drug class is among several that “face unique impediments” that serve as disincentives for innovation. To overcome the steep hill that impedes the development of new AMR drugs, lawmakers must implement policies that unleash the incentives of the free market. Policymakers also should look at the 1983 federal Orphan Drug Act and its market-oriented reforms that increased the number of drugs developed to treat rare diseases. More than 400 have been introduced to the market since the law was enacted, compared to fewer than 10 in the 1970s. Put another way, government needs to remove its anchors from the process and let the market do what it does so well. In this case, that’s restoring patients’ health, enriching innovative companies that create jobs, and inspiring biotech start-ups such as the group of Stanford undergraduates that has been capitalized to develop new antibiotics. If the proper incentives are in place, the needed treatments will follow.

### 1NC – Debris

#### 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 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.

#### ASAT threat is hype – they’re decades old and non-destructive

Weeden 18 [(Brian, director of program planning for the Secure World Foundation, former U.S. Air Force officer, PhD in Public Policy and Public Administration from George Washington University in the field of Science and Technology Policy) “Real talk and real solutions to real space threats,” Space News, 11/26/2018] JL

Yet the public rhetoric and discussion on these threats often leaves out or obscures important details. The existence of counterspace capabilities is not new; both the United States and Soviet Union developed, tested and deployed multiple destructive anti-satellite (ASAT) systems throughout the Cold War. The situation in space today is a more a return to that historical contested space domain than a uniquely new situation, and the destructive counterspace threats of today are also neither newly hatched nor yet operational. Russian and Chinese ASAT programs have been underway since the early 2000s, and their testing prompted the Obama administration to re-examine U.S. space posture in 2014. In February 2018, Director of National Intelligence Dan Coats testified that Russian and Chinese destructive ASAT weapons probably will reach initial operational capability in the next few years. Counterspace threats are also being conflated with hypersonics, despite the latter being a threat to ground installations and not satellites. Moreover, while destructive ASATs get the most media and political hype, it is non-destructive attacks such as jamming that are actually being used operationally in conflicts today and pose the most likely military threat.

### 1NC – Soot

#### No warming internal link – 1ac Pultarova says a couple hundred flights will be possible soon but Heilweil assumes 1000s – either takes too long or never happens

#### No internal link – even if missions are possible none of your evidence assumes there is demand – it is economically infeasible and nobody could afford to go to space 1000x to trigger the internal link

#### Tourism is good – exploration solves a litany of existential threats – don’t put all your eggs in one basket.

Fitzgerald 3/9 [(Shanon, Assistant Websites Editor at Liberty Fund), “Why Human Space Exploration Matters,” March 9 2021, https://www.econlib.org/why-human-space-exploration-matters/] TDI

While the yields to space exploration and the development of spaceflight technology may appear minimal in the immediate future, shifting our perspective to the longer term renders the human situation vis a viz space exploration extremely clear: if humans want to survive in perpetuity, we need to establish ourselves on other planets in addition to Earth. It is as simple as that. And yet we are not doing all that much to make that happen. To be clear, I’m long on Earth, too, and hope that technological improvements will continue to allow our species to get “more from less” right here on the third rock from the sun, enabling us to keep occupying the planet that saw us evolve into consciousness. I like to imagine that the distant future on Earth has the potential to be an extremely pleasant one, as advances in our scientific understanding and bio-technical praxis should hopefully allow our descendants to clean up any of the remaining messes previous generations will have left behind (e.g., nuclear and industrial waste, high amounts of atmospheric carbon, other lingering nasties) and stable-state free societies will hopefully allow all persons (or very nearly all persons) to live free and meaningful lives in productive community and exchange with their fellows. As the previous qualification highlights, the trickiest problems here on Earth and extending to wherever humans end up in the spacefaring age will still be social and political, and their successful resolution will depend more on the future state of our governing arts than our hard sciences. But regarding the negative events that could very well happen to Earth I think we all need to be equally clear: life might not make it here. There is no guarantee that it will, and in the very long run, with the expansion and subsequent death of our sun, we know with near certainty that it will not. Consider just a few possible extinction-level events that could strike even earlier: large meteors, supervolcanic eruptions, drastic climactic disruption of the “Snowball Earth” variety. As SpaceX founder and Tesla CEO Elon Musk recently observed on the Joe Rogan Experience podcast, “A species that does not become multiplanetary is simply waiting around until there is some extinction event, either self-inflicted or external.” This statement, applied to the human species, is obviously true on its face. As doomsday events go a giant asteroid might be more shocking, since we (people living today) have never experienced one before while concerned atomic scientists warn us about the nuclear bomb all the time, but the odds that we blow ourselves up are still there. Slim, but there. It’s more plausible that a severe nuclear war and the nuclear winter it would likely trigger would leave the human population greatly reduced as opposed to completely extinct, but then the question becomes: why is that a risk we would want to take? The bomb is here to stay for now, but there is no reason that 100% of known life in the universe needs to stay here on Earth to keep it company, waiting around for something even more destructive to show up. While we’re on that happy subject: Do you have any good intuitions about our collective chances against hostile, or simply arrogant or domineering, technologically-advanced extraterrestrial lifeforms, if and/or when they decide to pay us a visit on our home turf? These scary situation sketches will suffice. At bottom, the core reason I am a believer in the need to make life—and not just human life—multiplanetary is the same basic reason I would never counsel a friend to keep all their money and valuables in one place: diversification is good. Wisdom and experience suggest we store precious resources in multiple safe(ish) places. Diversification limits our exposure to risk, and increases our resilience when bad things do happen. One reserve gets hit, two or three others survive, and you probably feel that the effort to spread things out was worth it. What I’m saying here has strong undercurrents of common sense, yet our approach to the human population itself—the universal store and font of “human capital”—does not currently prioritize diversification to the degree our technological capabilities would allow. The distribution of the human population, and of almost all human knowledge and works, is overwhelmingly local

. (Let us set to one side the possibility that aliens somewhere maintain an archive of captured human information.) Establishing outposts at least as large as those we maintain in Antarctica on the Moon and Mars, or other more suitable sites, by the end of this century would be a great first step toward genuinely diversifying the physical locations of the most precious resources known to us: human consciousness and creativity, human love and human soul, the great works in which all these things are displayed. Add also to this list repositories of scientific knowledge and knowhow, seed reserves, and certain materials necessary to re-start the manufacturing of fundamental technologies. Spreading these goods to a few additional locations within the solar system would be a major species-and-civilization-level accomplishment that all living at the time could feel satisfied by, and even take some pride in. And this is something that we seem to be just on the cusp of being able to do, given our recent and rapid technological advances in rocketry, computers, and materials science and engineering, among other important fields for space exploration and settlement. Quickly the uniplanetary human situation is becoming, if it is not already, one of pure choice.

#### But, privatization is key to space exploration and maximizing public sector efficiency

Houser 17 [(Kristen, staff writer at Freethink, where she covers science and tech. Her written work has appeared in Business Insider, NBC News and Futurimsm), “Private Companies, Not Governments, Are Shaping the Future of Space Exploration,” June 12, 2017, <https://futurism.com/private-companies-not-governments-are-shaping-the-future-of-space-exploration>] TDI

Private Companies, Not Governments, Are Shaping the Future of Space Exploration The power is in our hands. / Off World/ Blue Origin/ NASA/ Space Race 2 0 SpaceX / Flickr Image by SpaceX / Flickr SPACE RACE 2.0 Sixty years ago, the Soviet Union launched the first artificial satellite into orbit. The event served as the starting pistol in what would come to be known as the Space Race, a competition between the U.S.S.R. and the United States for spaceflight supremacy. In the decades that followed, the first human reached space, a man walked on the Moon, and the first space stations were built. The U.S.S.R. and the U.S. were soon joined by other world powers in exploring the final frontier, and by the time the Soviet Union was dissolved in 1991, the contentious Space Race was something of a distant memory. The World’s Top Space Agencies [INFOGRAPHIC] Click to View Full Infographic In recent years, however, a new Space Race has taken shape—Space Race 2.0. Rather than powerful nations guided by presidents and premiers, however, the competitors in this race are tech startups and private businesses spearheaded by billionaire entrepreneurs. And while the current atmosphere is far less contentious than that of the first Space Race (save the odd tweet or two), the competition is just as fierce. A CROWDED FIELD SpaceX, Blue Origin, Bigelow Airspace, Virgin Galactic, Boeing, Lockheed Martin… Not only has the number of private companies engaged in space exploration grown remarkably in recent years, these companies are quickly besting their government-sponsored competitors. ADVERTISEMENT “We’re starting to see advances made by private entities that are more significant than any advances in the last three years that were made by the government,” Chris Lewicki, CEO and President of Planetary Resources, tells Futurism. Amazon CEO Jeff Bezos’s Blue Origin and Tesla CEO Elon Musk’s SpaceX are arguably the two companies that are setting the pace. In November 2015, the former completed the first successful vertical rocket landing after sending their New Shepard 100 kilometers (62 miles) into the air. SpaceX landed its own rocket a month later, only they did so with a craft twice as heavy as Blue Origin’s and traveled all the way into space first. A month after that, in January 2016, Bezos’s company became the first entity to re-launch and re-land a previously used rocket. SpaceX followed suit in 2017. “The government was never able to [build reusable rockets], but now, two private companies within the space of the same year have done that,” points out Lewicki. Not only are private companies already surpassing their government counterparts, several are poised to widen their lead in the coming months and years. ADVERTISEMENT If all goes according to plan, when SpaceX’s Falcon Heavy launches in September, it’ll take the title of the world’s most powerful rocket away from NASA’s Saturn V. Virgin Galactic is already selling tickets for what it expects to be the first private spaceflights, which will take place aboard the sleek VSS Unity. SpaceX plans to send space tourists to the Moon in 2018, and then in 2024, the company hopes to launch a system that will take people all the way to Mars…roughly 5-15 years before NASA expects to do the same. ALL ON THE SAME TEAM Private companies may be in the lead, but the finish line for this Space Race isn’t exactly clear. The first iteration was arguably “won” when Neil Armstrong took his first steps on the Moon, so does this sequel end when we establish the first Moon base? When a human walks on Mars? When we leave the solar system? Truthfully, the likelihood of humanity ever calling it a day on space exploration is slim to none. The universe is huge, with galaxy estimates in the trillions, so the goalpost will continue moving back (to bring another sport into the analogy). Rather than focusing on competing in what is ultimately an unwinnable race, private and government-backed space agencies can actually benefit from collaboration thanks to their inherent differences. “The way that SpaceX, Planetary Resources, or Virgin Galactic approaches space exploration is going to be very different from NASA or the Air Force,” explains Lewicki. Private companies aren’t beholden to the same slow processes that often stall government projects, and they can secure or reallocate funding much more swiftly if need be. However, unlike agencies like NASA, they do have shareholders to keep happy and a need to constantly pursue profitability. ADVERTISEMENT The two sectors, therefore, have a tremendous opportunity to help one another. Private companies can generate revenue through government contracts —for example, NASA has contracted Boeing to transport astronauts to the International Space Station (ISS), and SpaceX just closed a deal with the U.S. Air Force to launch its secretive space drone. This leaves the government agencies free to pursue the kind of forward-thinking, longer-term research that might not immediately generate revenue, but that can be later streamlined and improved upon in the private sector. Ultimately, Space Race 2.0 has no losers. The breakthroughs happening in space exploration benefit us all, and truly, a little friendly competition never hurt anyone (unless you count the egos bruised by those tweets).