



SRMUN Atlanta 2024
November 21-23, 2024
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Esteemed Delegates,

Welcome to SRMUN Atlanta 2024 and the United Nations (UN) General Assembly Plenary. My name is Aspen Andersson, and I have the pleasure of serving as your Director for the General Assembly Plenary. This will be my third time serving on SRMUN staff, having previously served as the Assistant Director of the Commission on the Status of Women and the Security Council. I also previously attended five SRMUN conferences as a delegate. I recently graduated with my Bachelor's Degree in Political Science with a Pre-law concentration and two minors in Spanish and English. I plan to pursue my Juris Doctor in education law and policy in the near future. Our committee's Assistant Directors will be Peyton Gardner and Haley Bufka. This will be Peyton's first time as a staff member, having attended three SRMUN conferences as a delegate. Peyton is currently working towards her Bachelor's Degree in Anthropology. This will be Haley's second time as a staff member, having attended five SRMUN conferences as a delegate. Haley graduated with her Bachelor's Degree in International Affairs with an applied French language concentration and a minor in African and African Diaspora Studies minor.

The United Nations General Assembly, or UNGA, is comprised of all 193 Member States of the UN, which provides a unique forum for multilateral discussion of the full spectrum of international issues. The UNGA occupies itself as the chief deliberative, policymaking, and representative organ of the United Nations. It also plays a significant role in the process of standard-setting and the codification of international law. The overarching mission of the UNGA is to recommend diplomatic and multilateral solutions to issues involving peace and security, human rights, development, international law and justice, and social, economic, and political unrest.

Focusing on the mission of the General Assembly Plenary, we have developed the following topics for the delegates to discuss at conference:

- I. Preventing and Mitigating the Weaponization of Outer Space
- II. Preventing Environmental Degradation During Times of Conflict

This background guide will serve as the foundation for your research, yet it should not be the extent of your research. Preparation is given to each topic to help guide delegates in their initial research, and to serve as a starting place for more in-depth studies. It is expected that delegates go beyond this background guide in preparation for their position paper and to better prepare themselves for contribution within the committee in November. Further, each delegation is required to submit a position paper for consideration. Position papers should be no longer than two pages in length (single spaced) and demonstrate your Member State's position, policies, and recommendations on each of the two topics. For more detailed information about formatting and how to write position papers, delegates can visit srmun.org. **All position papers MUST be submitted no later than Friday, November 1st, by 11:59pm EST via the SRMUN website to be eligible for Outstanding Position Paper Awards.**

Peyton, Haley, and I are excited for the opportunity to serve as your dais for the General Assembly Plenary. I wish you all the best of luck in your conference preparation and look forward to meeting and working with each of you in November. Should questions arise as you begin to prepare for this conference, contacting those on your dais is always encouraged.

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History of the General Assembly Plenary

At the end of World War II, representatives from around the world came together for a two-month conference during which they drafted and signed the Charter for the United Nations (UN).¹ The UN was created to maintain international peace and security, develop diplomatic relations, foster social progress, and promote human rights.² The General Assembly (GA) is a central organ of the UN and is comprised of all 193 Member States.³ In the GA, Member States deliberate the vast array of issues pertinent to the body and make recommendations to set the standard for codification of international law.⁴

Intrinsically, the mandate of the GA is outlined in Chapter IV (Articles 10-22) of the Charter of the United Nations.⁵ Article 10 stipulates the GA is tasked with discussing "any questions or any matters within the scope or relating to the powers and functions of any organs provided for in the [Charter]."⁶ Article 15 asserts the GA "shall receive and consider annual and special reports from the Security Council; these reports shall include an account of the measures that the Security Council has decided upon or taken to maintain international peace and security."⁷ In addition, the GA shall consider reports from other organs of the UN and make recommendations to the Security Council and all Member States.⁸ The GA also serves to elect the UN Secretary-General based on recommendations from the Security Council.⁹

The GA has six main committees which roughly summarize the topics of discussion mandated by the UN Charter: the Disarmament and International Security Committee (First Committee), the Economic and Financial Committee (Second Committee), the Social, Humanitarian and Cultural Committee (Third Committee), the Special Political and Decolonization Committee (Fourth Committee), the Administrative and Budgetary Committee (Fifth Committee), and the Legal Committee (Sixth Committee).¹⁰ The GA and the six main committees can mandate a subsidiary body to consider a particular issue and to submit reports to the GA.¹¹ The GA has the power to set the budget, establish financial assessments of Member States, and elect members of councils and organs, including the non-permanent members of the Security Council (SC) and the Secretary-General of the UN.¹² The President and 21 Vice-Presidents of the GA oversee the direction of the GA Plenary, which drives the six main committees.¹³ The GA and its main committees can establish subsidiary bodies of varying scope and duration for specific problems to report back to the GA.¹⁴ During sessions of the GA Plenary, agenda items are considered through debate and any number of resolutions may be adopted by the body.¹⁵ The six main committees run independent sessions and report back to the GA Plenary.¹⁶

The GA has universal membership, with each of the 193 Member States attaining one equal vote.¹⁷ Non-Member States, non-governmental organizations (NGOs), and intergovernmental organizations (IGOs) can participate in GA

¹ "History of the United Nations," *United Nations*, 2024, <https://www.un.org/en/about-us/history-of-the-un>, (accessed February 8, 2024).

² "History of the United Nations," *United Nations*.

³ "Functions and Powers of the General Assembly," *United Nations*, <https://www.un.org/en/ga/about/background.shtml>, (accessed February 8, 2024).

⁴ "Functions and Powers of the General Assembly," *United Nations*.

⁵ United Nations, *Charter of the United Nations*, October 24, 1945, 1 UNTS XIV, available at https://www.unitar.org/sites/default/files/media/publication/doc/un_pga_new_handbook_0.pdf, Chapter IV.

⁶ *Charter of the United Nations*, Chapter IV.

⁷ *Charter of the United Nations*, Chapter IV.

⁸ *Charter of the United Nations*, Chapter IV.

⁹ "The GA Handbook: A Practical Guide to the United Nations General Assembly," Permanent Mission of Switzerland to the United Nations, 2017, https://www.unitar.org/sites/default/files/media/publication/doc/un_pga_new_handbook_0.pdf, pg.13.

¹⁰ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg. 12.

¹¹ "The GA Handbook: A practical guide to the United Nations General Assembly," pg.19.

¹² "Functions and Powers of the General Assembly," *United Nations*.

¹³ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg. 13.

¹⁴ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg. 19.

¹⁵ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg. 36.

¹⁶ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg. 18.

¹⁷ United Nations, "General Assembly of the United Nations," United Nations, 2023, <https://www.un.org/en/ga/>, (accessed February 10, 2023).

sessions with the status of Observer; however, these groups do not have voting rights.¹⁸ Most resolutions in the GA Plenary are decided by a simple majority.¹⁹ However, a two-thirds majority is required in the Plenary on essential issues, such as maintenance of international peace and security, the admission of new members, the suspension and expulsion of members, and all budgetary questions.²⁰

All assessments on the regular UN budget are considered and approved by the GA.²¹ The Committee on Contributions advises the GA on how much each Member State pays to the UN.²² Draft resolutions with budget implications must be examined by the GA Fifth Committee before they can be adopted in the GA.²³ The GA budget covers UN activities across a range of areas, including political affairs, international justice and law, regional cooperation for development, human rights and humanitarian affairs, and public information.²⁴ During the 72nd session, the GA endorsed the proposal to move from a biennial planning and budgeting period to an annual program budget on a trial basis.²⁵ In December 2023, the GA Fifth Committee approved a USD 3.59 billion budget for the 2024 fiscal year, a USD 300 million increase from the 2022-2023 budget.²⁶

The GA meets in regular, annual sessions and in special sessions, which consist of formal and informal meetings.²⁷ All GA sessions are numbered consecutively, and debate begins on the third Tuesday of September.²⁸ Since the GA's 44th session (1989-1990), the GA has been formally regarded as being active through the whole year, even if they are not officially in session.²⁹ Additionally, the GA may also hold special sessions, which can be convened either at the request of the Security Council or a majority of Member States.³⁰ There have been 32 GA Special Sessions as of February 2024.³¹ The last two special sessions addressed the coronavirus pandemic (31st session) and the challenges and measures to prevent and combat corruption and strengthen international cooperation (32nd session).³² The GA can also hold emergency special sessions, in which the GA can make decisions on issues that are under the exclusive mandate of the SC if the SC fails to decide on an issue due to a lack of consensus among its permanent members.³³ There have been 11 emergency special sessions as of February 2024.³⁴ The 11th special session was called due to the lack of unanimity among the Security Council when deciding a course of action regarding the Russian Federation's invasion of Ukraine.³⁵ The GA adopted A/RES/ES-11/1 on March 2, 2022, in which the GA condemned the actions of the Russian Federation and urged Member States to help with the

¹⁸ "The GA Handbook: A Practical Guide to the United Nations General Assembly," Permanent Mission of Switzerland to the United Nations, 2017, https://www.unitar.org/sites/default/files/media/publication/doc/un_pga_new_handbook_0.pdf, pg.30.

¹⁹ "The GA Handbook: A practical guide to the United Nations General Assembly," pg.68.

²⁰ "The GA Handbook: A practical guide to the United Nations General Assembly," pg.54.

²¹ United Nations, "General Assembly of the United Nations," United Nations, 2023, <https://www.un.org/en/ga/>, (accessed February 8, 2024).

²² United Nations, "Committee on Contributions," United Nations, 2023, <https://www.un.org/en/ga/contributions/>, (accessed February 8, 2024).

²³ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.77.

²⁴ United Nations, "Fifth Committee Recommends \$5.4 Billion Budget for 2018-2019 Biennium as It Concludes Main Part of Seventy-Second Session," United Nations, December 23, 2017, <https://press.un.org/en/2017/gaab4270.doc.htm#:~:text=By%20part%20A%2C%20on%20the,%3B%20%2498.10%20million%20for%20International/>, (accessed February 21, 2024).

²⁵ United Nations, "Fifth Committee Recommends \$5.4 Billion Budget for 2018-2019 Biennium as It Concludes Main Part of Seventy-Second Session."

²⁶ United Nations, "General Assembly Approves \$3.59 Billion UN Budget for 2024," United Nations, 2023, <https://news.un.org/en/story/2023/12/1145072>, (accessed February 8, 2024).

²⁷ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.14-15.

²⁸ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.14.

²⁹ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.14.

³⁰ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.14.

³¹ General Assembly of the United Nations, "Special Sessions," United Nations, 2023, <https://www.un.org/en/ga/sessions/special.shtml>, (accessed February 9, 2024).

³² General Assembly of the United Nations, "Special Sessions."

³³ "The GA Handbook: A Practical Guide to the United Nations General Assembly," pg.15.

³⁴ General Assembly of the United Nations, "Emergency Special Sessions," United Nations, 2023, <https://www.un.org/en/ga/sessions/emergency.shtml>, (accessed February 9, 2024).

³⁵ United Nations, "Security Council Calls Emergency Special Session of General Assembly on Ukraine Crisis, Adopting Resolution 2623 (2022) by 11 Votes in Favour, 1 Against, 3 Abstentions," United Nations, February 27, 2022, <https://press.un.org/en/2022/sc14809.doc.htm>, (accessed March 6, 2023).

humanitarian crisis that resulted from this invasion.³⁶ Additionally, as of February 2024, the 10th special session was reconvened for the first time since 2018 to address the call for an immediate ceasefire in Gaza.³⁷

The 78th Session of the GA commenced in September 2023.³⁸ The GA has emphasized “peace, prosperity, progress, and sustainability” as top priorities for the session.³⁹ In December 2023, the GA adopted 99 resolutions and three decisions, tackling the international rise of Nazism, promoting safety for journalists, eradicating global poverty, and affirming rights to self-determination for both Ukrainian and Palestinian people.⁴⁰ The 78th session has also heard several resolutions relating to nuclear proliferation and pushing towards total nuclear disarmament.⁴¹ Additionally, while the United Nations has not yet taken action in Gaza, the GA has taken particular interest, passing several resolutions impacting aspects of the conflict.⁴² The most current action as of April 2024 is A/RES/78/251, condemning the continued deaths of the United Nations Work and Relief Agency for Palestinian Refugees in the Near East.⁴³ The resolution was presented as a larger report from the Fifth Committee in December 2023.⁴⁴

³⁶ United Nations General Assembly resolution ES-11/1, *Aggression against Ukraine*, A/RES/ES-11/1, (March 2, 2022), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/293/36/PDF/N2229336.pdf?OpenElement>.

³⁷ United Nations, “Tenth Emergency Special Session,” <https://www.un.org/en/ga/sessions/emergency10th.shtml> (accessed February 8, 2024).

³⁸ United Nations, “High-level Meetings of the 78th Session,” 2023, <https://www.un.org/en/ga/78/meetings/>, (accessed April 3, 2024).

³⁹ United Nations Regional Center for Information, “President of the General Assembly Dennis Francis Speech at SDG Summit Opening.” <https://unric.org/it/president-of-the-general-assembly-dennis-francis-speech-at-sdg-summit-opening/> (accessed February 9, 2024).

⁴⁰ United Nations, “General Assembly Takes Up Second, Third Committee Reports, Adopting 99 Resolutions, Three Decisions on Broad Range of Items,” United Nations, December 19, 2023, <https://press.un.org/en/2023/ga12575.doc.htm>, (accessed February 9, 2024).

⁴¹ United Nations, “In Late-Day Meeting, First Committee Approves 21 Draft Resolutions on Nuclear Weapons, Requiring 78 Separate Recorded Votes,” United Nations, October 27, 2023, <https://press.un.org/en/2023/gadis3728.doc.htm>, (accessed February 9, 2024).

⁴² United Nations, “General Assembly Takes Up Second, Third Committee Reports, Adopting 99 Resolutions, Three Decisions on Broad Range of Items.”

⁴³ United Nations General Assembly resolution, *Proposed Programme Budget for 2024*, A/RES/78/662, (December 23, 2023), <https://documents.un.org/doc/undoc/gen/n23/428/77/pdf/n2342877.pdf?token=o1mAK6WcOpe1MZt1IS&fe=true>.

⁴⁴ United Nations General Assembly resolution, *Proposed Programme Budget for 2024*, A/RES/78/662, (December 23, 2023), <https://documents.un.org/doc/undoc/gen/n23/428/77/pdf/n2342877.pdf?token=o1mAK6WcOpe1MZt1IS&fe=true>.

I. Preventing and Mitigating the Weaponization of Outer Space

Introduction

James Smith McDonnell, the founder of McDonnell Aircraft Corporation, a producer of rockets and spacecraft, once said “The creative conquest of space will serve as a wonderful substitute for war,” that is until space itself becomes a war zone.⁴⁵ Humans have been exploring space since October 4, 1957, when the Union of Soviet Socialist Republics (USSR) launched Sputnik, the first artificial satellite, into Earth’s orbit.⁴⁶ Fearing the USSR’s growing power, the United States of America (US) raced to launch its own satellite, the Explorer, into Earth’s orbit on January 31, 1958.⁴⁷ From 1961-2021, there have been a total of 580 space missions, with 339 successful missions reaching an Earth orbit.⁴⁸ As the initial novelty of space exploration wore off, the international community established outer space as an “international common” in the 1976 Outer Space Treaty, but it quickly became “a contested, congested, and competitive domain.”⁴⁹ Accordingly, world leaders placed pressure on the international community to define where outer space begins and to codify norms, rules, and principles governing this new domain.⁵⁰ The United Nations (UN) General Assembly (GA) has debated and passed a number of treaties and resolutions in relation to outer space since the late 1950s and early 1960s.⁵¹ However, in recent years, the GA First Committee (Disarmament and International Security) has raised concern over Member States once again vying for space supremacy.⁵² As science continues to advance rapidly, Member States increasingly rely on space-based technology for commercial, civil, and defense purposes.⁵³ As such, the weaponization of space has emerged as an urgent topic of concern among the international community.⁵⁴

History

Following World War II (WWII), the US and USSR fought to prove their global superiority across various cultural, military, and political fronts, including advancements in technology.⁵⁵ Despite being allies during WWII, the superpowers’ relationship soured as the US demonstrated its newly-acquired power to instantly level cities with the use of the atomic bomb to force Japan’s surrender.⁵⁶ The following roughly 50-year period became known as the Cold War, because, while there was no direct military engagement between the two superpowers, “the period was characterized by an aggressive and costly arms race; bloody proxy wars;” and a high-tension competition “for world dominance between the US-led capitalist governments and Soviet-led communist bloc.”⁵⁷ Immediately after the end of WWII, both the US and USSR began building rockets to use as long-range weapons, creating a defensive arms race that quickly gave way to a space race as the two superpowers sought to build rockets for space exploration.⁵⁸

⁴⁵ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.” NDU Press, 2014.

https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

⁴⁶ National Geographic, “The History of Space Exploration.” National Geographic. Accessed March 11, 2024.

<https://education.nationalgeographic.org/resource/history-space-exploration/>.

⁴⁷ National Geographic, “The History of Space Exploration.”

⁴⁸ Jannik Lindner, “Must-Know Space Statistics.” GITNEX, December 16, 2023. <https://gitnux.org/space-statistics/>.

⁴⁹ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.”

⁵⁰ Paul Stephen Dempsey, “The Definition and Delimitation of Outer Space.” United Nations Office for Outer Space Affairs, March 30, 2017. <https://www.unoosa.org/documents/pdf/copuos/lsc/2017/tech-05.pdf>.

⁵¹ United Nations, “Outer Space.” United Nations Office for Disarmament Affairs. Accessed March 12, 2024.

<https://disarmament.unoda.org/topics/outerspace/>.

⁵² United Nations, “‘We Have Not Passed the Point of No Return’, Disarmament Committee Told, Weighing Chance Outer Space Could Become Next Battlefield.” United Nations, October 26, 2022.

<https://press.un.org/en/2022/gadis3698.doc.htm>.

⁵³ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.”

⁵⁴ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.”

⁵⁵ National Air and Space Museum, “The Space Race.” National Air and Space Museum. Accessed May 8, 2024.

<https://airandspace.si.edu/explore/stories/space-race>.

⁵⁶ Amy McKeever, “How the Space Race Launched an Era of Exploration beyond Earth.” National Geographic, April 12, 2022.

<https://www.nationalgeographic.com/science/article/space-race-early-human-spaceflight-history-missions>.

⁵⁷ Erin Blakemore, “What Was the Cold War-and Are We Headed to Another One?” National Geographic, March 23, 2022.

<https://www.nationalgeographic.com/culture/article/cold-war>.

⁵⁸ National Air and Space Museum, “The Space Race.”

Thus, space quickly became a crucial arena and “final frontier” for the US and USSR to demonstrate their technological advancements and superiority as the world’s “sole superpower.”⁵⁹

Sputnik, the world’s first artificial satellite launched by the USSR in 1957, demonstrated the sheer power of the USSR’s missiles and the increasingly deadly potential for the USSR to send a nuclear weapon to space or flying towards another Member State.⁶⁰ In response, the US launched its own satellite on January 31, 1958, and President Eisenhower established the National Aeronautics and Space Administration (NASA) in July 1958.⁶¹ Working tangentially with NASA, Eisenhower also created two space programs with the US Air Force and Central Intelligence Agency (CIA) to conduct satellite military reconnaissance, recovering photos of the numbers and locations of the USSR’s nuclear missiles and bombers.⁶² Despite this progress, the US remained “behind” in the space race as the USSR sent the first human into orbit in 1961.⁶³ However, the US quickly gained ground, achieving ten crewed flights to space in the next five years and the first space docking.⁶⁴ Ultimately, the US “won” the space race on July 16, 1969 when Apollo 11 successfully landed on the moon, and Neil Armstrong became the first person to set foot on the moon’s surface.⁶⁵ Beyond the US and USSR, the rapid development of military technology spurred space exploration amongst other Member States, including Canada, the People’s Republic of China (PRC), the United Kingdom (UK), and France.⁶⁶

Canada became the third Member State to successfully design and build its own satellite, Alouette I, which was launched into orbit by NASA in 1962.⁶⁷ Two years after the launch of Sputnik, the PRC sent its first artificial satellite, Project 581, into space, with this project “economically and materially” supported by the USSR.⁶⁸ However, the USSR pulled its funding after political unrest between the two Member States.⁶⁹ Despite this, the PRC became the third Member State to send humans into space in 2003.⁷⁰ The UK also attempted to keep up with the US and USSR during the Cold War by developing its first military rocket, Blue Streak – and its test rocket Black Knight – to launch nuclear weapons.⁷¹ While the project was ultimately cancelled in 1960 due to cost, the British government began using its rockets for civilian purposes, such as launching satellites into orbit.⁷² In 1971, the satellite Prospero was launched into space by the UK using solely British technology.⁷³ Similarly, despite many of France’s ambitious space exploration programs being grounded due to a lack of funding, France established the Centre National d’Etudes Spatiales (CNES) and began launching beta satellites in 1965.⁷⁴ France quickly realized

⁵⁹ Maddie Davis, “The Space Race.” Miller Center. Accessed May 8, 2024. <https://millercenter.org/the-presidency/educational-resources/space-race#:~:text=Sputnik%20was%20the%20first%20artificial,sparking%20fear%20across%20the%20globe>.

⁶⁰ Maddie Davis, “The Space Race.”

⁶¹ History.com, “The Space Race: Timeline, Cold War & Facts.” History.com. Accessed May 11, 2024. <https://www.history.com/topics/cold-war/space-race>.

⁶² National Air and Space Museum, “Military Reconnaissance.” National Air and Space Museum. Accessed May 9, 2024. <https://airandspace.si.edu/explore/stories/military-reconnaissance>.

⁶³ Amy McKeever, “How the Space Race Launched an Era of Exploration beyond Earth.” National Geographic, April 12, 2022. <https://www.nationalgeographic.com/science/article/space-race-early-human-spaceflight-history-missions>.

⁶⁴ Amy McKeever, “How the Space Race Launched an Era of Exploration beyond Earth.”

⁶⁵ Amy McKeever, “How the Space Race Launched an Era of Exploration beyond Earth.”

⁶⁶ BBC, “BBC and Science Museum Present: Britain in Space.” BBC. Accessed Jun 15, 2024. <https://www.bbc.co.uk/teach/articles/zkrk382#:~:text=Britain%20joined%20a%20select%20group,earlier%20test%20rocket%2C%20Black%20Knight>.

⁶⁷ Government of Canada. “Canadian Space Milestones.” Accessed June 15, 2024. <https://www.asc-csa.gc.ca/eng/about/milestones.asp>.

⁶⁸ Sebastián Bruzzone. “China’s Long March in Space.” Universidad de Navarra. Accessed June 15, 2024.

<https://www.unav.edu/web/global-affairs/detalle/-/blogs/china-s-long-march-in-space#:~:text=After%20the%20launch%20of%20Sputnik,supported%20by%20the%20Soviet%20Union>.

⁶⁹ Sebastián Bruzzone. “China’s Long March in Space.”

⁷⁰ Sebastián Bruzzone. “China’s Long March in Space.”

⁷¹ BBC, “BBC and Science Museum Present: Britain in Space.”

⁷² BBC, “BBC and Science Museum Present: Britain in Space.”

⁷³ BBC, “BBC and Science Museum Present: Britain in Space.”

⁷⁴ Samantha David, “Stellar Journey: France’s Place in the Space Race.” The Connexion. November 21, 2018. <https://www.connexionfrance.com/magazine/stellar-journey-frances-place-in-the-space-race/475924>.

the expensive cost of space exploration made international collaboration a necessity and, thus played an instrumental role in setting up the European Space Agency (ESA) in 1973.⁷⁵

A little over a decade later, the idea of collaboration to decrease the cost of space exploration developed into the International Space Station (ISS), a program bringing together international flight crews, launch vehicles, engineering, communications networks, and more.⁷⁶ Elements of the ISS were designed and constructed between 1984 and 1993 by a number of Member States, including the US, Canada, Japan, the Russian Federation, and members of the ESA.⁷⁷ The ISS remains an example of international collaboration as five partner agencies – the Canadian Space Agency, the European Space Agency, the Japan Aerospace Exploration Agency, NASA, and the State Space Corporation “Roscosmos” – work together to operate it.⁷⁸ The ISS is expected to “continue to be a working laboratory and outpost in orbit until at least 2030.”⁷⁹

Beyond military capabilities, the new arena of space and space technology revolutionized many scientific fields. In the 1950s, the same satellite technology used for military reconnaissance also revolutionized weather forecasting as the US launched the first meteorological satellite in 1960, capturing pictures of the Earth’s cloud patterns.⁸⁰ Furthermore, Telstar 1, the first communications satellite – owned by the American Telephone and Telegraph Company (AT&T) and launched by NASA – entered Earth’s orbit in 1962.⁸¹ While it was deactivated in 1963, the success of Telstar 1 led to the launch of Early Bird, a global communications satellite backed by the US government.⁸² In 1964, 18 Member States convened to create the International Telecommunications Satellite Organization, originally abbreviated as INTELSAT but later changed to ITSO, “to [internationally] own and manage a constellation of communications satellites providing international broadcast services.”⁸³ Although founded as a public-private consortium, INTELSAT was privatized in 2001 with public services under the oversight of the ITSO.⁸⁴ In 1966, the US launched its first satellite with the Global Positioning System (GPS) to monitor submarines carrying nuclear missiles.⁸⁵ Although originally reserved for military use only, President Reagan authorized the use of GPS by civilian commercial airlines in 1983 to improve air travel safety and navigation.⁸⁶ In 2000, President Clinton made the system public for all civil and commercial uses.⁸⁷

⁷⁵ Samantha David, “Stellar Journey: France’s Place in the Space Race.” *The Connexion*. November 21, 2018. <https://www.connexionfrance.com/magazine/stellar-journey-frances-place-in-the-space-race/475924>.

⁷⁶ NASA, “About the International Space Station.” NASA. Accessed June 19, 2024. <https://www.nasa.gov/international-space-station/>.

⁷⁷ NASA, “About the International Space Station.”

⁷⁸ NASA, “International Space Station: Overview.” NASA. Accessed June 19, 2024. <https://www.nasa.gov/reference/international-space-station/>.

⁷⁹ NASA, “International Space Station: Overview.”

⁸⁰ National Oceanic and Atmospheric Administration, “Weather Satellites.” NOAA. Accessed May 9, 2024. <https://www.noaa.gov/jetstream/weather-satellites#:~:text=TIROS%2D1%20Satellite%2C%20April%201%2C%201960.&text=The%20world%27s%20first%20meteorological%20satellite,Canaveral%20on%20April%201%2C%201960>.

⁸¹ National Air and Space Museum, “Telstar.” National Air and Space Museum. Accessed May 9, 2024. https://airandspace.si.edu/collection-objects/communications-satellite-telstar/nasm_A20070113000#:~:text=Launched%20on%20July%2010%2C%201962.features%20of%20communications%20via%20space.

⁸² David J. Whalen, “Communications Satellites: Making the Global Village Possible.” NASA, November 30, 2010. <https://www.nasa.gov/history/communications-satellites/>.

⁸³ Intelsat, “Intelsat History.” Intelsat. Accessed May 9, 2024. <https://www.intelsat.com/intelsat-history/>.

⁸⁴ Erick Gregersen, “Intelsat.” *Britannica*. June 26, 2024. <https://www.britannica.com/money/Intelsat>.

⁸⁵ Holly Stephens, “The History of GPS.” *Spytec GPS*, August 8, 2022. <https://spytec.com/blog/the-history-of-gps>.

⁸⁶ The Aerospace Corporation, “Brief History of GPS.” The Aerospace Corporation. Accessed May 9, 2024. <https://aerospace.org/article/brief-history-gps>.

⁸⁷ Holly Stephens, “The History of GPS.”

Current Situation

In 2023, global government expenditure for space programs hit a record high of approximately USD 117 billion, with the US having the highest space expenditure in the world at USD 73.2 billion.⁸⁸ The People's Republic of China (PRC) followed the US, spending over USD 14 billion on space programs in 2023.⁸⁹ As Member States continue to increase spending on space exploration and satellites, the international community increasingly relies on the use of space for peaceful purposes, such as communications (television, cell phones, radio, and more), transportation (GPS and air traffic control), environmental management, observations, weather analysis and predictions, climate change, surveillance of natural disasters, and “minimally invasive verification of international treaties.”⁹⁰ In 2018, communications activities alone comprised 26 percent of the total space economy, and this number is expected to grow to over 50 percent by 2040.⁹¹ In 2021, the global revenue from the space economy came from a wide array of activities, such as space research, exploration, and utilization and was valued at around USD 469.3 billion.⁹² In the same year, USD 224.4 billion came from commercial space products – such as communications and remote sense satellites – and services alone.⁹³ In addition to Member States, there is an increasing engagement of private actors – such as Jeff Bezos' Blue Origin and Elon Musk's SpaceX – in space exploration and commercial space, posing both unique challenges and opportunities for collaboration.⁹⁴ While private companies offer new avenues for scientific discovery and technological development, their presence in space creates issues, such as gaps in space law, and exacerbates others, such as the proliferation of space debris.⁹⁵ With satellite launch costs declining, the commercialization of space is rapidly increasing, and without “general space norms” or “governing regimes,” there is no guarantee all parties will use space for peaceful purposes.⁹⁶

There are thousands of satellites orbiting Earth, and a conflict in space affecting these satellites would have wide-ranging implications for civilians and militaries alike.⁹⁷ Most space weapons systems can be placed into one of three categories: space-to-space, space-to-earth, and earth-to-space.⁹⁸ A space-to-earth weapon is any weapon in orbit able to attack or disrupt a terrestrial target.⁹⁹ Space-to-space weapons are “satellites or other assets that are placed into orbit and attack or disrupt other satellites.”¹⁰⁰ However, technical challenges make space-to-earth and space-to-space weapons “unlikely to be pursued in the short term.”¹⁰¹ Earth-to-space weapons – such as direct-ascent anti-satellite weapons and directed energy lasers and jammers, all which have been tested by the US, PRC, the Russian Federation, and India – currently pose the greatest threat.¹⁰² Of particular concern are the development of nuclear-

⁸⁸ Statista Research Department, “Government Expenditure on Space Programs in 2020 and 2022, by Major Country.” Statista Research Department, February 13, 2024. <https://www.statista.com/statistics/745717/global-governmental-spending-on-space-programs-leading-countries/>.

⁸⁹ Statista Research Department, “Government Expenditure on Space Programs in 2020 and 2022, by Major Country.”

⁹⁰ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.” NDU Press, 2014. https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

⁹¹ Martin Placek, “Space Industry Worldwide - Statistics & Facts.” Statista Research Department, December 18, 2023. <https://www.statista.com/topics/5049/space-exploration/>.

⁹² Statista Research Department, “Global space economy from 2019 to 2021, by sector.” Statista Research Department, December 1, 2023. <https://www.statista.com/statistics/662231/space-economy-breakdown-globally-by-sector/>.

⁹³ Statista Research Department, “Global space economy from 2019 to 2021, by sector.”

⁹⁴ Giulia Consonni, Marco Rizzi, and Francisco Duran Herrera, “The Outer Space Business: The Impact of Private Actors on Space Governance.” September 20, 2023. <https://mondointernazionale.org/focus-allegati/the-outer-space-business-the-impact-of-private-actors-on-space-governance#:~:text=Private%20companies%2C%20such%20as%20SpaceX,in%20regulating%20private%20entities%27%20actions>.

⁹⁵ Giulia Consonni, Marco Rizzi, and Francisco Duran Herrera, “The Outer Space Business: The Impact of Private Actors on Space Governance.”

⁹⁶ Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.” Center for Arms Control and Non-Proliferation. November 15, 2023. <https://armscontrolcenter.org/fact-sheet-space-weapons/>.

⁹⁷ Christian Davenport, et al., “U.S. Officials Say Russia Has Deployed a Nuclear Weapon in Space.” The Washington Post, February 15, 2024. <https://www.washingtonpost.com/technology/2024/02/15/space-weapons-russia-china-starlink/>.

⁹⁸ Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.”

⁹⁹ Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.”

¹⁰⁰ Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.”

¹⁰¹ Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.”

¹⁰² Center for Arms Control and Non-Proliferation, “Fact Sheet: Space Weapons.”

armed anti-satellite weapons (ASAT).¹⁰³ ASATs are weapons “designed to destroy or limit satellites for military purposes.”¹⁰⁴ Kinetic energy ASATs physically collide with other satellites at high velocities or deploy other methods, such as drones, ballistic missiles, and explosives, to destroy satellites.¹⁰⁵ On the other hand, non-kinetic energy ASATs use non-physical mechanisms to interfere with satellite functions, such as “blinding satellites with lasers, launching cyberattacks, or jamming frequencies.”¹⁰⁶ While ASATs have existed since the Cold War, nuclear weapons are strictly prohibited in space under the Outer Space Treaty of 1967.¹⁰⁷ In addition, the detonation of such a weapon in space would take out satellites indiscriminately, likely destroying many of the attacker’s own satellites and making it unlikely for any Member State to launch such a weapon.¹⁰⁸

The potential for cyberattacks on satellites continues to be a pressing threat, as “hackers can upload malware to satellite terminals that gives them control of the devices, shuts them down, cuts off communication with the ground,” or force a satellites to overheat and explode.¹⁰⁹ Unlike nuclear weapons in space, there are no treaties preventing cyberattacks on satellites.¹¹⁰ Such an attack on satellites would impact military and civilian activity alike, as satellites are crucial for daily conveniences like the Global Positioning System (GPS) and the Internet, but also in defense systems and environmental monitoring.¹¹¹ Furthermore, space systems often have a “dual use” for Member States, performing both civilian and military functions.¹¹² Infrastructure critical to civilian needs, such as healthcare, transportation, communications, energy, and trade, are increasingly dependent on satellites and other space systems.¹¹³ The destruction or disabling of these systems could have wide-reaching impacts for civilians across the globe.¹¹⁴ This threat persists as the European Union Agency for Cybersecurity and the CyberPeace Institute found the number of cyberattacks has increased by 300 percent in the past five years, emphasizing the need for increased international cybersecurity measures in space “to protect sensitive data and prevent unauthorized access to critical satellite systems.”¹¹⁵

On August 23, 2023, India became only the fourth Member State to successfully land a spacecraft on the moon and the first Member State to land near the little-explored south pole region, where “permanently shadowed craters may hold frozen water that could help future astronaut missions.”¹¹⁶ In February 2024, India unveiled its shortlist of astronauts for its first human spaceflight mission to take place in 2025.¹¹⁷ Currently, only the US, the Russian Federation, and the PRC have the capability of carrying out manned spaceflights.¹¹⁸ As India marks the fourth nuclear-armed Member State to land on the moon and prepares to carry out its first human spaceflight – and other

¹⁰³ Christian Davenport, et al., “U.S. Officials Say Russia Has Deployed a Nuclear Weapon in Space.” The Washington Post, February 15, 2024. <https://www.washingtonpost.com/technology/2024/02/15/space-weapons-russia-china-starlink/>.

¹⁰⁴ Talia M. Blatt, “Anti-Satellite Weapons and the Emerging Space Arms Race.” Harvard International Review, May 26, 2020. <https://hir.harvard.edu/anti-satellite-weapons-and-the-emerging-space-arms-race/>.

¹⁰⁵ Talia M. Blatt, “Anti-Satellite Weapons and the Emerging Space Arms Race.”

¹⁰⁶ Talia M. Blatt, “Anti-Satellite Weapons and the Emerging Space Arms Race.”

¹⁰⁷ Talia M. Blatt, “Anti-Satellite Weapons and the Emerging Space Arms Race.”

¹⁰⁸ Christian Davenport, et al., “U.S. Officials Say Russia Has Deployed a Nuclear Weapon in Space.”

¹⁰⁹ Maggie Miller, “Officials Plan for New Age of Cyber Threats to Satellites.” Politico, March 25, 2024. <https://www.politico.com/news/2024/03/25/satellite-cyber-threat-00148672>.

¹¹⁰ Maggie Miller, “Officials Plan for New Age of Cyber Threats to Satellites.”

¹¹¹ Sylvester Kaczmarek, “We Need Cybersecurity in Space to Protect Satellites.” Scientific American, February 5, 2024. <https://www.scientificamerican.com/article/we-need-cybersecurity-in-space-to-protect-satellites/>.

¹¹² International Review of the Red Cross, “The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law.” International Review of the Red Cross, January 1, 2022. <https://international-review.icrc.org/articles/the-potential-human-cost-weapons-in-outer-space-and-protection-afforded-by-ihl-icrc-position-paper-915>.

¹¹³ International Review of the Red Cross, “The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law.”

¹¹⁴ International Review of the Red Cross, “The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law.”

¹¹⁵ Sylvester Kaczmarek, “We Need Cybersecurity in Space to Protect Satellites.”

¹¹⁶ Ashok Sharma, “India Becomes Only the 4th Country to Successfully Land a Spacecraft on the Moon.” PBS, August 23, 2023. <https://www.pbs.org/newshour/world/india-becomes-the-only-the-4th-country-to-successfully-land-a-spacecraft-on-the-moon>.

¹¹⁷ Andrew Jones, “India Unveils Astronauts for 1st Human Spaceflight Mission in 2025.” Space.com, February 28, 2024. <https://www.space.com/india-reveals-astronauts-first-human-spaceflight-gaganyaan>.

¹¹⁸ Andrew Jones, “India Unveils Astronauts for 1st Human Spaceflight Mission in 2025.”

Member States, such as Japan, South Korea and members of the ESA, race to follow pursuit – the international community has once again become enveloped in conversations around the preservation of peaceful space exploration and use, and the prevention of a space arms race with space weapons systems.¹¹⁹

Actions Taken by the United Nations

Prior to the launch of the first satellite into Earth’s orbit, the UN began efforts to maintain outer space for peaceful purposes.¹²⁰ To assist in the prevention and mitigation of the weaponization of space, the GA established the ad hoc Committee on the Peaceful Uses of Outer Space in 1958, later becoming the UN Office for Outer Space Affairs (UNOOSA) in 1992.¹²¹ In the spirit of the Cold War and heightened fear around nuclear weapons, early UN proposals in the late 1950s and early 1960s considered the prohibition of the use of outer space for military purposes and the placement of weapons of mass destruction (WMD).¹²² These efforts only heightened after the US conducted five space nuclear tests in 1962, knocking out roughly a third of the 22 satellites in orbit at the time, including Telstar 1.¹²³ In 1967, after being considered by the Committee on the Peaceful Uses of Outer Space and the GA, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (the “Outer Space Treaty”) entered into force.¹²⁴

Today, the Outer Space Treaty (OST) has 114 states-parties – Member States that have ratified or acceded to the international treaty – with another 22 Member States having signed but not completed ratification.¹²⁵ The OST opens with the statement, “The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.”¹²⁶ Simply put, the OST establishes outer space for peaceful purposes that benefit the international community and codifies space as a domain not subject to national appropriation or claims of sovereignty by any Member State.¹²⁷ Accordingly, the OST lays the foundation for international space law, and notably prohibits the placement of nuclear weapons or other WMD in outer space and on celestial bodies.¹²⁸ The term “weapons of mass destruction” is not defined in the OST but is commonly understood to mean “nuclear, chemical, and biological weapons.”¹²⁹ Although the treaty’s repeated call for the use of outer space for peaceful purposes is often broadly interpreted to prohibit all types of weapons in outer space, the OST does not explicitly do so.¹³⁰ Four other treaties have been adopted to reinforce the OST: the Rescue Agreement of 1968 (“requires States to assist an astronaut in case of accident, distress, emergency or unintended landing”); the Liability Convention of 1972 (“establishes the standards of liability for damage caused by space objects”); the

¹¹⁹ Ashok Sharma, “India Becomes Only the 4th Country to Successfully Land a Spacecraft on the Moon.” PBS, August 23, 2023. <https://www.pbs.org/newshour/world/india-becomes-the-only-the-4th-country-to-successfully-land-a-spacecraft-on-the-moon>.

¹²⁰ United Nations, “Outer Space.” United Nations Office for Disarmament Affairs. Accessed March 12, 2024. <https://disarmament.unoda.org/topics/outerspace/>.

¹²¹ United Nations Office for Outer Space Affairs, “History.” United Nations Office for Outer Space Affairs. Accessed May 10, 2024. <https://www.unoosa.org/oosa/en/aboutus/history/index.html#:~:text=The%20United%20Nations%20Office%20for%20the%20Peaceful%20Uses%20of%20Outer%20Space,December%201958>.

¹²² United Nations, “Outer Space.”

¹²³ Tom Howarth, “Nukes in Space: Why a Very Very Stupid Idea Just Became More Likely.” BBC Science Focus Magazine, May 4, 2024. <https://www.sciencefocus.com/space/nukes-in-space>.

¹²⁴ United Nations, “Outer Space.”

¹²⁵ United Nations Office for Outer Space Affairs, “Status of International Agreements Relating to Activities in Outer Space as at January 1, 2024.” United Nations Office for Outer Space Affairs. April 15, 2024. https://www.unoosa.org/res/oosadoc/data/documents/2024/aac_105c_22024crp/aac_105c_22024crp_3_0_html/AC105_C2_2024_CRP03E.pdf.

¹²⁶ David C. DeFrieze, “Defining and Regulating the Weaponization of Space.” NDU Press, 2014. https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

¹²⁷ United Nations, “Outer Space.”

¹²⁸ United Nations, “Outer Space.”

¹²⁹ Arms Control Association, “The Outer Space Treaty at a Glance.” Arms Control Association. Accessed June 19, 2024. <https://www.armscontrol.org/factsheets/outer-space-treaty-at-a-glance#:~:text=The%20treaty%20forbids%20countries%20from,%20chemical%20and%20biological%20weapons>.

¹³⁰ Arms Control Association, “The Outer Space Treaty at a Glance.”

Registration Convention of 1975 (“requires States to register all objects launched into outer space with the United Nations”); and the Moon Agreement of 1979 (“elaborates on the provisions of the Outer Space Treaty as they apply to the Moon and other celestial bodies”).¹³¹

Following the adoption of the OST, the UN has continuously addressed the peaceful use of outer space through conventions, resolutions, and working groups.¹³² In 2005, the GA adopted A/RES/60/66 to explore and develop transparency and confidence-building measures (TCBMs) in outer space activities.¹³³ Five years later, in 2010, the GA adopted A/RES/65/68 to establish a Group of Governmental Experts (GGE) to conduct a study on outer space and set TCBMs for Member States and international organizations to implement on a voluntary basis.¹³⁴ Some of the recommended measures included: information exchange on space policies and notifications related to space activities; contact and visits to space launch sites and facilities; and consultative mechanisms.¹³⁵ The Secretary-General’s 2017 report on TCBMs in outer space activities (A/72/65) included replies from 9 Member States – including the PRC, France, the US, and the UK – and the European Union providing support and updates on the implementation of the recommended TCBMs.¹³⁶ For instance, France highlighted its implementation of the recommendations, including its public national registry of objects in orbit provided through its participation in the Convention on Registration of Objects Launched into Outer Space.¹³⁷ In 2017, the GA adopted A/RES/72/250 to establish a GGE “to consider and make recommendations on substantial elements of an international legally binding instrument on the prevention of an arms race in outer space,” but the group was unable to reach a consensus.¹³⁸

In 2020, the GA adopted A/RES/75/36, noting the increasing threat of long-lived space debris, cyber interference and attacks, and the difficulty in verifying the military and/or civilian use of satellites.¹³⁹ This resolution sought to study existing and potential threats, characterize outer space activities as responsible, irresponsible, or threatening, and for Member States to share ideas on the development and implementation of establishing norms, rules and principles of responsible behavior to prevent an arms race in space.¹⁴⁰ The resolution also gave guidelines and suggestions including encouraging Member States to “consider establishing channels of direct communication for the management of perceptions of threat.”¹⁴¹ Furthermore, A/RES/75/36 “invites” Member States to inform the Conference on Disarmament and the Disarmament Commission of their national space security policies, strategies or doctrines as well as potential threats and security risks to space systems.¹⁴² Despite this resolution, division between Member States remains as some support “promoting responsible behaviors through voluntary commitments” while others call “for an early start of negotiations on a legally binding instrument.”¹⁴³ The latter

¹³¹ United Nations Office for Outer Space Affairs, “Treaties.” United Nations Office for Outer Space Affairs. Accessed May 10, 2024. <https://www.unoosa.org/oosa/en/aboutus/history/treaties.html>.

¹³² United Nations, “Outer Space.” United Nations Office for Disarmament Affairs. Accessed March 12, 2024. <https://disarmament.unoda.org/topics/outerspace/>.

¹³³ United Nations, “Outer Space.”

¹³⁴ United Nations, “Outer Space.”

¹³⁵ United Nations, “Outer Space.”

¹³⁶ United Nations Department Office for Disarmament Affairs. *Report of the Secretary-General on Transparency and Confidence-Building Measures in Outer Space Activities*. New York, NY: UN Headquarters, 2017.

¹³⁷ United Nations Department Office for Disarmament Affairs. *Report of the Secretary-General on Transparency and Confidence-Building Measures in Outer Space Activities*.

¹³⁸ United Nations, “Outer Space.”

¹³⁹ Guoyu Wang and Junzhe Chen, “On the New Initiative for Responsible Space Behaviors Proposed by United Kingdom, United States, and Other States.” *Space: Science & Technology* 3, (April 20, 2023), <https://doi.org/10.34133/space.0033>.

¹⁴⁰ Guoyu Wang and Junzhe Chen, “On the New Initiative for Responsible Space Behaviors Proposed by United Kingdom, United States, and Other States.”

¹⁴¹ United Nations General Assembly Resolution 36, *Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviors*, A/RES/75/36, (December 7, 2020), <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F75%2F36&Language=E&DeviceType=Desktop&LangRequested=False>.

¹⁴² United Nations General Assembly Resolution 36, *Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviors*.

¹⁴³ United Nations General Assembly Resolution 36, *Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviors*, A/RES/75/36.

believe a new, legally binding international space treaty is needed as the OST only prevents the placement of nuclear weapons and WMD, leaving room for another arms race and the weaponization of space by other means.¹⁴⁴

Conclusion

Over the years, the GA has increasingly taken steps needed to mitigate the weaponization of outer space.¹⁴⁵ However, the threat of outer space weaponization remains as space security becomes increasingly linked to economic and social stability on Earth.¹⁴⁶ The GA Plenary and GA First committees have placed a priority on creating an international, legally-binding instrument to prevent an arms race, that has yet to be established.¹⁴⁷ As such, current international agreements do not offer an enforceable means of addressing the weaponization of space; thus, enforcement heavily relies on diplomacy.¹⁴⁸ Creating and adopting an international framework for the enforcement and adjudication of outer space practices is imperative as international organizations have emphasized the immeasurable human cost of using weapons in space.¹⁴⁹ The increasing presence of non-state actors in space and use of satellites for multiple purposes, including military and civilian, highlights the need for heightened cybersecurity in space and the demand for a treaty to prevent the weaponization of outer space.¹⁵⁰ Whether in the form of a binding, legal treaty or a new set of transparency and confidence-building measures, it is evident the international community needs further guidance to prevent and mitigate the weaponization of outer space.¹⁵¹

Committee Directive

Delegates should look at how the Member State is currently involved in the topic, whether directly within domestic and international foreign policies or indirectly through socioeconomic implications of other Member States' actions. Delegates should seek information on what their Member State is doing nationally to address the issue and how those actions may affect other Member States both regionally and internationally. In doing so, delegates should ask themselves: What are some current national, regional, and international space weaponization prevention and aid policies that have seen positive improvements? What can the GA Plenary do to incentivize Member States to proactively become involved in preventing the weaponization of space? What are the consequences of ignoring the need to prevent the weaponization of space, such as economic, security, and humanitarian effects? Overall, delegates should address these questions with realistic solutions for implementing their goals. Delegates should focus on building upon established UN, GA, and other multilateral programs and initiatives rather than creating new bodies within the UN or the GA Plenary. Delegates should also focus on the issue as a whole and not specific situations.

¹⁴⁴ United Nations, "Debate on Disarmament Aspects of Outer Space Exposes First Committee Rift over Ways to Sustain Space Security, Prevent Domain's Weaponization." United Nations, October 20, 2023. <https://press.un.org/en/2023/gadis3723.doc.htm>.

¹⁴⁵ United Nations, "Outer Space." United Nations Office for Disarmament Affairs. Accessed March 12, 2024. <https://disarmament.unoda.org/topics/outerspace/>.

¹⁴⁶ United Nations, "'We Have Not Passed the Point of No Return', Disarmament Committee Told, Weighing Chance Outer Space Could Become Next Battlefield." United Nations, October 26, 2022. <https://press.un.org/en/2022/gadis3698.doc.htm>.

¹⁴⁷ United Nations, "Outer Space Becoming Contested Domain for Supremacy with Space-Based Communications, Intelligence Assets, Anti-Satellite Weapons, First Committee Hears." United Nations, October 19, 2023. <https://press.un.org/en/2023/gadis3722.doc.htm>.

¹⁴⁸ David C. DeFrieze, "Defining and Regulating the Weaponization of Space." NDU Press, 2014. https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf.

¹⁴⁹ International Review of the Red Cross, "The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law." International Review of the Red Cross, January 1, 2022. <https://international-review.icrc.org/articles/the-potential-human-cost-weapons-in-outer-space-and-protection-afforded-by-ihl-icrc-position-paper-915>.

¹⁵⁰ United Nations, "Speakers Renew Calls for Treaty to Prevent Arms Race in Space as First, Fourth Committees Convene Joint Meeting." United Nations, October 27, 2022. <https://press.un.org/en/2022/gaspd761.doc.htm>.

¹⁵¹ United Nations, "Outer Space Becoming Contested Domain for Supremacy with Space-Based Communications, Intelligence Assets, Anti-Satellite Weapons, First Committee Hears."

II. Preventing Environmental Degradation During Times of Conflict

Introduction

The United Nations Office for Disaster Risk Reduction (UNDRR) defines environmental degradation from conflict as “the reduction of the capacity of the environment to meet social and ecological objectives and needs” as a result of conflict.¹⁵² Conflict drives environmental degradation in three ways: directly from the conflict itself, and indirectly through involved populations and weakened institutions.¹⁵³ The United Nations International Strategy for Disaster Reduction (UNISDR) Terminology on Disaster Risk Reduction 2009 defines the numerous types of human-induced environmental degradation, such as deforestation, soil erosion, and pollution.¹⁵⁴ Conflict increases the frequency of human-induced environmental degradation in several ways: intentional destruction of environment and natural resources, contamination from military waste, destructive coping mechanisms of at-risk populations (including overuse of natural resources and habitat destruction from population displacements), and weakening of environmental governance structures, among others.¹⁵⁵ Environmental degradation from conflict is encompassed under International Humanitarian Law, International Criminal Law, International Environment Law, and International Human Rights Law.¹⁵⁶ Degradation of the environment can increase the vulnerability of communities already suffering from conflict by altering the frequency and intensity of natural hazards.¹⁵⁷ Additionally, the various drivers of environmental degradation from conflict negatively impact human health and livelihood.¹⁵⁸ The UN General Assembly Plenary (GA) must consider measures mitigating environmental degradation from conflict to ensure the environment has the long-term capacity to meet humanity’s needs, particularly when humanity is at its most vulnerable in times of conflict.¹⁵⁹

History

While environmental degradation is more thoroughly documented today than it has been in the past, evidence of environmental degradation from conflict exists from as far back as the Mesopotamian water war in 2500 BCE, where canals were targeted and destroyed to flood irrigated fields.¹⁶⁰ Additionally, the Mongols’ famous victory over medieval Baghdad in 1258 was due to the destruction of the city’s water supply.¹⁶¹ The Mongols even utilized ancient biological warfare by catapulting bodies of people that had died from plague over city walls, which would contaminate water sources in cities.¹⁶² Technological advancement over time led to more extensive environmental degradation, such as the destruction of over 250,000 acres of French farmland through trench warfare and the destruction of an additional 494,000 acres of French forests in World War I (WWI).¹⁶³ The Dust Bowl event in American history can even be partially attributed to WWI, as Europe’s increased demand for wheat encouraged many inexperienced farmers to plow millions of acres of native grasslands for agricultural cultivation, much of which was marginal land that could not be reached by irrigation.¹⁶⁴ The trend of increasing environmental degradation from conflict continued into World War II (WWII), as the German military frequently destroyed land

¹⁵² United Nations, “Environmental Degradation from Conflict.” *United Nations Office for Disaster Risk Reduction (UNDRR)*, November, 2019, accessed March 1, 2024, <https://www.undrr.org/understanding-disaster-risk/terminology/hips/so0005#:~:text=Ecological%20degradation%2C,UNISDR%2C%202009%3A6>.

¹⁵³ United Nations, “Environmental Degradation from Conflict.”

¹⁵⁴ United Nations International Strategy for Disaster Reduction, *UNISDR Terminology on Disaster Risk Reduction (2009)*. UNDRR, 2009. https://www.undp.org/sites/g/files/zskgke326/files/migration/ge/GE_isdr_terminology_2009_eng.pdf.

¹⁵⁵ United Nations, “Environmental Degradation from Conflict.”

¹⁵⁶ United Nations, “Environmental Degradation from Conflict.”

¹⁵⁷ United Nations International Strategy for Disaster Reduction, *UNISDR Terminology on Disaster Risk Reduction (2009)*.

¹⁵⁸ United Nations, “Environmental Degradation from Conflict.”

¹⁵⁹ United Nations, “Environmental Degradation from Conflict.”

¹⁶⁰ Environmental History, “Prehistoric.” *Environmental History Timeline and Historical Insights*. <https://environmentalhistory.org/ancient/prehistoric/>.

¹⁶¹ Philip Swintek, “The Environmental Effects of War.” *Fordham University*, 2006. https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1070&context=environ_theses.

¹⁶² Philip Swintek, “The Environmental Effects of War.”

¹⁶³ Philip Swintek, “The Environmental Effects of War.”

¹⁶⁴ History, “Dust Bowl.” *History*, October 27, 2009. <https://www.history.com/topics/great-depression/dust-bowl>.

and resources to ensure the Allied Forces would be left with nothing useable.¹⁶⁵ Following this trend of increasing environmental degradation from conflict, in the Vietnam War, bombs and chemical spraying were utilized as a tactic to remove massive areas of vegetation that would otherwise grant opposing forces cover.¹⁶⁶ In addition to the resulting potent pollution from chemical contamination, tactics used in the Vietnam conflict displaced massive amounts of soil, exposed the water table, and altered watershed hydrology.¹⁶⁷

The massive destruction of the Vietnam war put the Member State in a position where it needed to address significant rebuilding and a way to boost the economy back up.¹⁶⁸ One of the most successful economic growth methods utilized was a tap into non-renewable natural resources, the extraction of which has a real environmental cost, so a difficult balance is sought to be struck between steady growth and protection of the environment in a Member State which has already faced significant environmental degradation from conflict.¹⁶⁹ Unfortunately, the relationship between conflicts and environmental degradation can be cyclical, particularly when the conflict itself relates to natural resources.¹⁷⁰ Oftentimes, conflicts exacerbate existing limits on resources, which can make neutral actors targets for attacks.¹⁷¹ UN estimations attribute 18 conflicts since 1990 to resource accessibility, ranging from metals to water.¹⁷² Over the past 60 years, 40 percent of intrastate conflict can be attributed to resource scarcity.¹⁷³ When natural resource scarcity drives conflict, and then conflict results in environmental degradation, natural resource scarcity can increase.¹⁷⁴ If action is not taken to address the availability and distribution of natural resources, environmental degradation from conflict will continue.¹⁷⁵

Conflict itself has also impacted the distribution and availability of natural resources, as it has often prompted Member States to focus their legislative attention and budget on defense and training, including vehicles and aircrafts that produce emissions and to redirect non-renewable resources away from populations and into militaries.¹⁷⁶ Even in cases where resources are not redirected, Member States have still accelerated climate change by funding initiatives to deplete resources, which encouraged dissatisfaction with governments and lower morale within populations.¹⁷⁷ In cases of intrastate conflict, this can empower non-state actors with opportunities to attack in areas that are the most affected.¹⁷⁸ Disconnected regions have been at a greater risk for a multitude of reasons; rural areas are more likely to be impacted in times of scarcity, and a lack of attention makes them targets for attacks from intrastate and outside actors.¹⁷⁹ Member States most impacted by climate change have not always had the resources to minimize environmental degradation available to them or felt that rural areas could not be prioritized in times of conflict.¹⁸⁰ Developing Member States also faced the complicated issue of environmental degradation as a result from military operations at bases run by other Member States within their borders, with little to no recourse

¹⁶⁵ Philip Swintek, "The Environmental Effects of War." *Fordham University*, 2006.

https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1070&context=environ_theses.

¹⁶⁶ Alain Pierret et. al., "Environmental and Migratory Consequences of the Vietnam War." *International Organization for Migration*, <https://environmentalmigration.iom.int/blogs/environmental-and-migratory-consequences-vietnam-war>.

¹⁶⁷ Alain Pierret et. al., "Environmental and Migratory Consequences of the Vietnam War."

¹⁶⁸ Trung Kien Tran et. al., "Nexus between natural resource depletion and rent and COP26 commitments: Empirical evidence from Vietnam." *Resources Policy* Volume 85, part B (August 2023):
<https://www.sciencedirect.com/science/article/abs/pii/S0301420723007353>

¹⁶⁹ Trung Kien Tran et. al., "Nexus between natural resource depletion and rent and COP26 commitments"

¹⁷⁰ United Nations, "Conflict and Climate." *United Nations Climate Change*, July 12, 2022, accessed March 1, 2024,
<https://unfccc.int/news/conflict-and-climate>.

¹⁷¹ United Nations, "Conflict and Climate."

¹⁷² United Nations, "Conflict and Natural Resources." *United Nations Peacekeeping*, accessed April 2, 2024,
<https://peacekeeping.un.org/en/conflict-and-natural-resources>.

¹⁷³ United Nations, "Conflict and Natural Resources."

¹⁷⁴ Bingham Kennedy, Jr., "Environmental Scarcity and the Outbreak of Conflict." *Population Reference Bureau*. January 1, 2001. <https://www.prb.org/resources/environmental-scarcity-and-the-outbreak-of-conflict/>.

¹⁷⁵ Bingham Kennedy, Jr., "Environmental Scarcity and the Outbreak of Conflict."

¹⁷⁶ Environment of Peace, *Security in a New Era of Risk*. Stockholm International Peace Research Institute, 2022,
https://www.sipri.org/sites/default/files/2022-05/environment_of_peace_security_in_a_new_era_of_risk_executive_summary.pdf.

¹⁷⁷ Environment of Peace, *Security in a New Era of Risk*.

¹⁷⁸ Environment of Peace, *Security in a New Era of Risk*.

¹⁷⁹ United Nations, "Conflict and Climate."

¹⁸⁰ United Nations, "Conflict and Climate."

available to hold responsible Member States accountable.¹⁸¹ Further complicating this issue is the difficulty to accurately identify the responsible party, as some military bases have been occupied by different forces over the course of history.¹⁸²

Current Situation

With the technological advancement of warfare, the types of contamination that occur from war have expanded.¹⁸³ Contemporary conflicts can have generational health impacts for ecosystems and human societies.¹⁸⁴ Oil fires and spills, abandoned military materials and munitions, demolition waste, radiation and poison contamination, and air, water, and ground pollution are some examples of environmental degradation driven by conflict.¹⁸⁵ Several drivers of environmental degradation from conflict exist; for example, environmental and natural resources may be directly targeted to fund or fuel conflict.¹⁸⁶ One example of this is the use of cocoa, a high-value environmental resource, to finance conflict in Côte d'Ivoire from about 2002-2020.¹⁸⁷ During this time, the government of the Côte d'Ivoire used funds from cocoa to defend against the rebel group Forces Nouvelles (FN), just as the FN simultaneously utilized cocoa funds to sustain their movement.¹⁸⁸ Another example is coca cultivation by rural farmers that desire a lucrative crop in Colombia, which gives them a stable income but also fuels an illegal drug economy and finances armed militant groups.¹⁸⁹ Without policies to effectively assist farmers in transitioning to legal crops that provide a stable income, illicit coca cultivation continues to flourish and conflicts surrounding the crop persist.¹⁹⁰ Furthermore, mining practices around natural resources, particularly diamonds, have funded conflicts in numerous Member States and displaced large numbers of people, earning these diamonds the nickname of “blood diamonds” or “conflict diamonds.”¹⁹¹

Often times, black markets around the extraction, processing, and sale of natural resources emerge in conflicts across the globe.¹⁹² This is often because conflict leads to weakened or collapsed institutions which leave natural resources particularly vulnerable, and then the unprotected natural resources can be taken advantage of to fuel or prolong armed conflict.¹⁹³ The United Nations Environment Programme (UNEP) has found the collapse of institutions due to conflict is a direct factor that leads to environmental risks which can threaten a population's

¹⁸¹ Sharon K. Weiner, “Environmental Concerns at U.S. Overseas Military Installations.” *Massachusetts Institute of Technology*, July 1992. <https://sgs.princeton.edu/sites/default/files/2021-12/weiner-1992.pdf>.

¹⁸² Sharon K. Weiner, “Environmental Concerns at U.S. Overseas Military Installations.”

¹⁸³ Doug Weir, “Conflict Pollution and the Toxic Remnants of War: A Global Problem That Receives Too Little Attention.” *UN Environment: Perspectives*, no. 24, March, 2017: 1-8, [https://courses.edx.org/assets/courseware/v1/1b424e0389180578bf7a0aed0e8f3a26/asset-v1:SDGAcademyX+ESSP001+3T2023+type@asset+block/Conflict Pollution and the Toxic Remnants of War- A Global Problem That Receives Too Little Attention 2017 .pdf](https://courses.edx.org/assets/courseware/v1/1b424e0389180578bf7a0aed0e8f3a26/asset-v1:SDGAcademyX+ESSP001+3T2023+type@asset+block/Conflict+Pollution+and+the+Toxic+Remnants+of+War+-+A+Global+Problem+That+Receives+Too+Little+Attention+2017+.pdf).

¹⁸⁴ Doug Weir, “Conflict Pollution and the Toxic Remnants of War.”

¹⁸⁵ Doug Weir, “Conflict Pollution and the Toxic Remnants of War.”

¹⁸⁶ United Nations, “Environmental Degradation from Conflict.” *United Nations Office for Disaster Risk Reduction (UNDRR)*, November, 2019, accessed March 1, 2024, <https://www.undrr.org/understanding-disaster-risk/terminology/hips/so0005#:~:text=Ecological%20degradation%2C,UNISDR%2C%202009%3A6>.

¹⁸⁷ Global Witness, *Hot Chocolate: How Cocoa Fueled the Conflict in Côte d'Ivoire*. Global Witness, 2007. [https://courses.edx.org/assets/courseware/v1/1bed4da112828304b62da11ba0bb504f/asset-v1:SDGAcademyX+ESSP001+3T2023+type@asset+block/Hot_Chocolate-How Cocoa Fuelled the Conflict in Cote d Ivoire 2007 .pdf](https://courses.edx.org/assets/courseware/v1/1bed4da112828304b62da11ba0bb504f/asset-v1:SDGAcademyX+ESSP001+3T2023+type@asset+block/Hot_Chocolate-How+Cocoa+Fuelled+the+Conflict+in+Cote+d+Ivoire+2007+.pdf).

¹⁸⁸ Global Witness, *Hot Chocolate: How Cocoa Fueled the Conflict in Côte d'Ivoire*.

¹⁸⁹ International Crisis Group, “Deeply Rooted: Coca Eradication and Violence in Colombia.” *International Crisis Group*, February 26, 2021. <https://www.crisisgroup.org/latin-america-caribbean/andes/colombia/87-deeply-rooted-coca-eradication-and-violence-colombia>.

¹⁹⁰ International Crisis Group, “Deeply Rooted: Coca Eradication and Violence in Colombia.”

¹⁹¹ Global Witness, “Conflict Diamonds.” *Global Witness*, 2024. <https://www.globalwitness.org/en/campaigns/conflict-diamonds/>.

¹⁹² Jonah Rexer, “Black Market Crude: Organized Crime and Environmental Externalities in Nigeria's Oil Sector,” *Kleinman Center for Energy Policy*, accessed April 1, 2024. <https://kleinmanenergy.upenn.edu/research/publications/black-market-crude-organized-crime-and-environmental-externalities-in-nigerias-oil-sector/>.

¹⁹³ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. UNEP, 2009. <https://www.unep.org/resources/report/protecting-environment-during-armed-conflict-inventory-and-analysis-international>.

health, livelihood, and security.¹⁹⁴ One valuable resource which frequently causes the formation of black markets is oil; billions of dollars in oil revenue have been lost by recognized governments to illegal crude oil tapping.¹⁹⁵ The processes of illegal oil extraction and associated activities by militant groups accounts for a large portion of oil spills as well.¹⁹⁶ Ultimately, black markets concerning natural resources which emerge during conflicts result in significant environmental degradation due to the lack of protections which exist for natural resources during times of armed conflict.¹⁹⁷

Recent environmental impacts of conflict in Ukraine have been better documented than past conflicts due to technological and scientific advancements.¹⁹⁸ The conflict in Ukraine has resulted in landscape destruction amounting to 30 percent of Ukraine's protected areas, widespread chemical contamination of air, water, and soil in the region, and an estimated 30 percent of Ukraine being contaminated with landmines and unexploded ordnance.¹⁹⁹ In addition, the destruction of the Nova Kakhovka Dam and the seizure of the Zaporizhzhia Nuclear Power Plant in the conflict pose serious long-term health and environmental risks for the region.²⁰⁰ Risks include the loss of safe drinking water for some populations, loss of agricultural land and product, destruction of local ecosystems, and radiation risks that could potentially affect seven adjacent Member States.²⁰¹ Some effects resulting from the destruction of the dam have already been measured, including the destruction of 80 settlements with the death and disappearance of many people, flooding of nature reserves and agricultural lands, the deaths of numerous specially-adapted organisms, destruction of an endangered sturgeon breeding facility, exposure of 1,870 sq kilometers of former lakebed, and significant pollution from heavy metals and long-lived organic compounds that were carried by the flood of water.²⁰² Moreover, even without active conflict, the maintenance of large militaries in the Member State is a huge source of pollution leading to environmental degradation.²⁰³ In 2023, the UN Framework Convention on Climate Change estimated militaries across the globe account for 5.5 percent of all global greenhouse emissions.²⁰⁴

Beyond military and warfare pollution, during times of conflict, a population's attempts at survival may inadvertently be drivers of environmental degradation.²⁰⁵ Conflict can lead to displacement, and displaced populations without proper management can produce uncontrolled waste and increase pressure on scarce resources

¹⁹⁴ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. UNEP, 2009. <https://www.unep.org/resources/report/protecting-environment-during-armed-conflict-inventory-and-analysis-international>.

¹⁹⁵ Jonah Rexer, "Black Market Crude: Organized Crime and Environmental Externalities in Nigeria's Oil Sector," *Kleinman Center for Energy Policy*, accessed April 1, 2024. <https://kleinmanenergy.upenn.edu/research/publications/black-market-crude-organized-crime-and-environmental-externalities-in-nigerias-oil-sector/>.

¹⁹⁶ Jonah Rexer, "Black Market Crude."

¹⁹⁷ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. UNEP, 2009. <https://www.unep.org/resources/report/protecting-environment-during-armed-conflict-inventory-and-analysis-international>.

¹⁹⁸ Daniel Hryhorczuk, et al., "The Environmental Health Impacts of Russia's War on Ukraine." *Journal of Occupational Medicine and Toxicology* 19, no.1 (2024). <https://occup-med.biomedcentral.com/articles/10.1186/s12995-023-00398-y#:~:text=There%20has%20been%20widespread%20chemical,30%25%20of%20Ukraine's%20protected%20areas.>

¹⁹⁹ Daniel Hryhorczuk, et al., "The Environmental Health Impacts of Russia's War on Ukraine."

²⁰⁰ Daniel Hryhorczuk, et al., "The Environmental Health Impacts of Russia's War on Ukraine."

²⁰¹ Daniel Hryhorczuk, et al., "The Environmental Health Impacts of Russia's War on Ukraine."

²⁰² Richard Stone, "Laid to Waste: Ukrainian Scientists are tallying the grave environmental consequences of the Nova Kakhovka Dam disaster." *Science*, January 4, 2024. <https://www.science.org/content/article/ukrainian-scientists-tally-grave-environmental-consequences-kakhovka-dam-disaster#:~:text=Reservoir%20bogs,20square%20kilometers%20of%20former%20lakebed.>

²⁰³ Sharon K. Weiner, "Environmental Concerns at U.S. Overseas Military Installations." *Massachusetts Institute of Technology*, July 1992. <https://sgs.princeton.edu/sites/default/files/2021-12/weiner-1992.pdf>.

²⁰⁴ United Nations, "Recognise Military and Conflict Emissions in the Global Stocktake." *United Nations Climate Change*, <https://unfccc.int/sites/default/files/resource/Global%20Stocktake%20Poster%20A2%20CMYK%20%281%29.pdf>

²⁰⁵ D. Jensen, 2019. *Environmental Security and Sustaining Peace*. UN Environment, Environmental Law Institute, Columbia University, Duke University, University of California, SDG Academy. <https://learning.edx.org/course/course-v1:SDGAcademyX+ESSP001+3T2023/home>.

leaving fragile ecosystems polluted and overused.²⁰⁶ For example, if a given body of water is excessively tapped for crop irrigation in an attempt at mass farming to feed a population without proper agriculture techniques and careful management, a loss of water can ultimately end in failure of the agricultural endeavors and can cause extensive environmental degradation.²⁰⁷ Such degradation can lead to massive starvation, desertification, and salination of a once thriving ecosystem which supported generations of people.²⁰⁸ In 2015, over eight million people across the globe were internally displaced due to conflict and violence and forced to move to other regions and integrate themselves into existing regional economies.²⁰⁹ With so many displaced individuals, significant pressure will be placed on natural resources as the availability and distribution of natural resources changes in the areas they have moved to, which in turn creates risk of conflict over natural resources and leads to further environmental degradation.²¹⁰

Actions Taken by the UN

The United Nations (UN) has been involved in researching the effects of environmental degradation over the past half century and has launched prohibitive measures and programs that assist in minimizing environmental impact during peacekeeping operations.²¹¹ There is a significant amount of preexisting international law the UN has compiled to provide clarity on the issue.²¹² In 2009, an analysis was released by UNEP, covering existing international law and how it can best be applied to prevent economic and bureaucratic collapse in times of resource-driven war.²¹³ The report, “Protecting the Environment During Armed Conflict,” found the environment is not sufficiently protected during times of conflict. The report makes a number of recommendations to strengthen the protection of the environment during conflict, including development of clear definitions for related terms and concepts, and consideration by the UN General Assembly to update the International Committee of the Red Cross (ICRC)’s *Guidelines on the Protection of the Environment during Armed Conflict (1994)*.²¹⁴ This was further strengthened by a 2019 report by the International Law Commission on how to best prevent further environmental damage in times of conflict.²¹⁵ The report also includes recommendations to improve and strengthen the framework by revisiting key topics such as Peacekeeping, the relationship between climate change and conflict, and sustainable resource management.²¹⁶ The UN has also launched a partnership with the European Union to help prevent resource scarcity as an aggravator for conflict.²¹⁷ The toolkit encourages Member States to view conflict management or mediation as an investment in resource protection.²¹⁸

²⁰⁶ United Nations, “Displacement and Environment in Africa: What is the relationship?” *United Nations Environment Program*, June 30, 2016, accessed March 1, 2024, <https://www.unep.org/news-and-stories/story/displacement-and-environment-africa-what-relationship>.

²⁰⁷ Ian Small, J. van der Meer, and R.E.G. Upshur, “Acting on an Environmental Health Disaster: The Case of the Aral Sea.” *National Institute of Health (NIH)*, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240333/pdf/ehp0109-000547.pdf> (accessed April 1, 2024).

²⁰⁸ Ian Small, J. van der Meer, and R.E.G. Upshur, “Acting on an Environmental Health Disaster: The Case of the Aral Sea.”

²⁰⁹ Internal Displacement Monitoring Centre (IDMC), “Grid 2016: Global Report on Internal Displacement.” *IDMC*, 2016, accessed May 1, 2024, <https://www.internal-displacement.org/globalreport2016/>

²¹⁰ United Nations, “Displacement and Environment in Africa: What is the relationship?”

²¹¹ United Nations, “Climate Reports”. *United Nations*. <https://www.un.org/en/climatechange/reports>.

²¹² United Nations, “Climate Reports”.

²¹³ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. UNEP, 2009. <https://www.unep.org/resources/report/protecting-environment-during-armed-conflict-inventory-and-analysis-international>.

²¹⁴ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*.

²¹⁵ International Law Commission, *Report on the Work of the Seventy-First Session (2019): Chapter VI. Protection of the Environment in Relation to Armed Conflict*. ILC, 2019. <https://legal.un.org/ilc/reports/2019/english/chp6.pdf>.

²¹⁶ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*.

²¹⁷ The United Nations Interagency Framework Team for Preventative Action, *Renewable Resources and Conflict: Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict*. FT, 2012. https://www.un.org/en/land-natural-resources-conflict/pdfs/GN_Renew.pdf.

²¹⁸ The United Nations Interagency Framework Team for Preventative Action, *Renewable Resources and Conflict: Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict*.

The lack of universally applicable and updated framework can be felt in how the UN responds in areas of conflict.²¹⁹ UN Peacekeeping missions play a role in all aspects of international conflict, as mandated by the Security Council.²²⁰ Peacekeeping operations seek to prevent further violence following the official end of a conflict.²²¹ While there is existing framework defining protections for vulnerable groups, such as women and children, there is no existing framework for environmental precautions.²²² For example, from April 2013 to December 2023, 15,000 military personnel were deployed in Mali at Mali's request for a peacekeeping mission.²²³ The deployed UN personnel were able to assist in building lasting infrastructure, making a disconnected region more accessible via supply chains.²²⁴ The operation was also able to make potable water more accessible in northern Mali, which reduced tensions.²²⁵ However, these efforts were not permanent or widespread, as Mali requested the end of all peacekeeping operations in June 2023.²²⁶ Additionally, at the end of the mission, the repeated usage of gas vehicles and deliveries of food and gas made by air support contributed to pollution.²²⁷ Mali has faced major environmental degradation over the past decade, and soil pollution could further damage the environment.²²⁸ While tensions were alleviated, it was at an environmental cost, and there is no current UN plan to assess the resulting damage.²²⁹ This is not to say that Peacekeeping operations do not have the capability to prevent their environmental impact.²³⁰ Beginning in 2020, the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA) began a pilot program on an Atmospheric Air to Water generator (AWG).²³¹ The AWG pulls air from the atmosphere and turns it into potable water.²³² The AWG is also less reliant on power and does not make the environmental disturbances that most emergency water sources do.²³³ The pilot project was considered successful, and MINUSCA is set to disperse 15 more AWGs into camps impacted by the Peacekeeping mission.²³⁴

Case Study

Iraq and Post-Conflict Cleanup

Beginning in 2017, the Islamic State of Iraq and the Levant (ISIS) engaged in attacks against Iraq and Syria that have been charged as potential acts of genocide by the Security Council.²³⁵ ISIS has also been accused of iconoclasm, mass killings, trafficking, among other accusations.²³⁶ In Iraq, ISIS took control of water management

²¹⁹ The United Nations Interagency Framework Team for Preventative Action, *Renewable Resources and Conflict: Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict*. FT, 2012. https://www.un.org/en/land-natural-resources-conflict/pdfs/GN_Renew.pdf.

²²⁰ United Nations, "Mandates and the Legal Basis for Peacekeeping". *United Nations Peacekeeping*. <https://peacekeeping.un.org/en/mandates-and-legal-basis-peacekeeping>.

²²¹ United Nations, "Mandates and the Legal Basis for Peacekeeping".

²²² United Nations, "Mandates and the Legal Basis for Peacekeeping".

²²³ United Nations, "Minusma Fact Sheet." *United Nations Peacekeeping*, <https://peacekeeping.un.org/en/mission/minusma>.

²²⁴ United Nations, *Iraq Contaminated Site Assessment Workshop. 2018* Report https://wedocs.unep.org/bitstream/handle/20.500.11822/42425/Oil_Contaminated_site_Iraq.pdf?sequence=1&isAllowed=y.

²²⁵ United Nations, "Four Ways Conflict Affects Water Resources and How UN Peacekeeping Helps." *United Nations Peacekeeping*, March 22, 2023, <https://peacekeeping.un.org/en/four-ways-conflict-affects-water-resources-and-how-un-peacekeeping-helps>

²²⁶ United Nations, "Mali: UN convoy concludes treacherous 350 kilometre journey." *United Nations News*, November 11, 2023, <https://news.un.org/en/story/2023/11/1143372>.

²²⁷ United Nations, "Mali: UN convoy concludes treacherous 350 kilometre journey."

²²⁸ United Nations, "Mali: UN convoy concludes treacherous 350 kilometre journey."

²²⁹ United Nations, "Mali: UN convoy concludes treacherous 350 kilometre journey."

²³⁰ United Nations, "Environmental Good Practice." *United Nations Peacekeeping*, 2020, https://peacekeeping.un.org/sites/default/files/2020_good_practice_updated_020121.pdf

²³¹ United Nations, "Environmental Good Practice."

²³² United Nations, "Environmental Good Practice."

²³³ United Nations, "Environmental Good Practice."

²³⁴ United Nations, "Environmental Good Practice."

²³⁵ *United Nations Security Council*, S/RES/2697 (2023). September 15, 2023. <https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/S-RES-2697.pdf>

²³⁶ *United Nations Security Council*, S/RES/2697 (2023).

systems to use as a weapon, and, in 2015, caused a false drought in central and southern Iraq, cutting off access for thousands of civilians.²³⁷ The conflict resulted in USD 600 million in damages done to the water management systems.²³⁸ The total debris from Mosul, Iraq was estimated to weigh 11 tons.²³⁹ Pesticides and fertilizers were used in attacks to make bombs throughout Iraq.²⁴⁰ Moreover, the Niniveh Environment Directorate was ordered to shut down by ISIS and taken over by ISIS as a base for attacks.²⁴¹ Iraq was left completely unable to operate the Directorate, and regular efforts to prevent environmental degradation were halted.²⁴² From 2017 to 2021, UNEP and Iraq partnered to identify solutions to eliminate their chemical waste the attacks left behind.²⁴³ The project focused on addressing the gaps in legislation that prevented Iraq from adequately handling chemical waste in the aftermath of the conflict.²⁴⁴ Attended by Ministry of Energy officials, several workshops were held to better assess the gaps.²⁴⁵ A 2018 series of workshops included fieldwork to determine priority sites for cleanup, and the introduction of several workshops centered around identifying priority sites in the future.²⁴⁶

In 2017, followed by retreat from ISIS, Iraq began a partnership with the UNEP to treat pollution and other damages caused by the conflict.²⁴⁷ The partnership includes training chemical waste disposal teams and rebuilding waste management systems.²⁴⁸ In 2018, Iraq was the first of seven Member States to be selected for the Special Programme, which trains Member States on how to meet their chemical and waste management obligations safely and sustainably.²⁴⁹ A proposed project involves recycling the debris in Mosul, which would cut the cost of relocation from USD 250 thousand to USD 175 thousand.²⁵⁰ The Special Programme has since expanded to include over fifty Member States, such as Afghanistan, Georgia, Kenya, and Sierra Leone.²⁵¹ While Iraq did have measures in place prior to the conflict, the Member State has revitalized their legislation to prevent resources being misappropriated in the future, including strict oversight of pesticides.²⁵² Iraq is currently partnered with UNEP in a five-year plan to restore biodiversity.²⁵³

Conclusion

²³⁷ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*. 2017. https://wedocs.unep.org/bitstream/handle/20.500.11822/22434/environmental_issues_Isil_Iraq.pdf?sequence=1&isAlloved=y.

²³⁸ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²³⁹ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²⁴⁰ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²⁴¹ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²⁴² United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²⁴³ United Nations, “Strengthening the Institutional Structure for the Management of Chemicals and Wastes.” *United Nations Environment Program*, <https://www.unep.org/explore-topics/chemicals-waste/what-we-do/special-programme/special-programme-projects-database-5>.

²⁴⁴ United Nations, “Strengthening the Institutional Structure for the Management of Chemicals and Wastes.”

²⁴⁵ United Nations, “Strengthening the Institutional Structure for the Management of Chemicals and Wastes.”

²⁴⁶ United Nations, *Iraq Contaminated Site Assessment Workshop*. 2018. <https://www.unep.org/resources/report/iraq-contaminated-site-assessment-workshop-report>.

²⁴⁷ United Nations, “Iran Ignites Major Cleaner Oil Production Project.” *United Nations Environment Program*, October 17, 2019. Accessed April 2, 2024. <https://www.unep.org/news-and-stories/story/iran-ignites-major-cleaner-oil-production-project>.

²⁴⁸ United Nations, “Iran Ignites Major Cleaner Oil Production Project.”

²⁴⁹ United Nations, “Cleaning up After ISIS: How Iraq’s New Chemicals Team is Trying to Undo Years of Conflict Pollution.” *United Nations Environment Programme*, December 5, 2018. <https://www.unep.org/news-and-stories/story/cleaning-after-isis-how-iraqs-new-chemicals-team-trying-undo-years-conflict>.

²⁵⁰ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*. 2017. https://wedocs.unep.org/bitstream/handle/20.500.11822/22434/environmental_issues_Isil_Iraq.pdf?sequence=1&isAlloved=y.

²⁵¹ United Nations Environment Programme, *Environmental Issues in Areas Retaken from Isil Mosul, Iraq*.

²⁵² United Nations, “Cleaning up After ISIS: How Iraq’s New Chemicals Team is Trying to Undo Years of Conflict Pollution.” *United Nations Environment Programme*, December 5, 2018. <https://www.unep.org/news-and-stories/story/cleaning-after-isis-how-iraqs-new-chemicals-team-trying-undo-years-conflict>.

²⁵³ United Nations, “Iraq/UNEP Plan”. *United Nations*. <https://media.un.org/unifeed/en/asset/u140/u140127e>.

Environmental degradation from conflict has been an issue for humanity since the beginning of recorded history.²⁵⁴ Unfortunately, significant technological advancements have caused the scale of environmental degradation from conflict to grow exponentially.²⁵⁵ Additionally, the cyclical relationship of conflict and environmental degradation suggests that environmental degradation must be stopped to avoid future conflicts over resources that grow increasingly scarce.²⁵⁶ Military tactics across the globe intentionally weaponize resource scarcity and environmental degradation, which poses a growing concern to the international community as it works to protect and restore the environment.²⁵⁷ With thorough documentation of modern conflicts and their effect on the environment, it has become increasingly clear how quickly environmental degradation can change landscapes and cause negative impacts for generations to come.²⁵⁸ While there is an existing framework outlined by UNEP, an updated policy is critical to adequately protect the environment and adapt to current warfare.²⁵⁹ Through international cooperation, environments can recover from degradation caused by conflict, and this process can begin in active conflict areas.²⁶⁰

Committee Directive

Delegates should look at how their Member State is currently involved in the topic of preventing environmental degradation during times of conflict. Delegates should strive to strengthen institutions which can help protect the environment and natural resources in times of conflict, with the goal of supporting regions vulnerable to conflict and having a response framework for times of increased conflict. To prevent potential future conflicts over the environment, delegates should consider initiatives that may require collective action solutions amongst regional Member States to address increasing resource scarcity. Delegates should also be aware of their Member State's position in relation to preventing environmental degradation during times of conflict, including actions taken at the local, regional, and international level. Delegates should also keep in mind that solutions should be accessible and sustainable for all Member States. Delegates should focus on the issue as a whole and not specific situations.

²⁵⁴ Environmental History, "Prehistoric." *Environmental History Timeline and Historical Insights*.
<https://environmentalhistory.org/ancient/prehistoric/>.

²⁵⁵ Philip Swintek, "The Environmental Effects of War." *Fordham University*, 2006.
https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1070&context=environ_theses.

²⁵⁶ Bingham Kennedy, Jr., "Environmental Scarcity and the Outbreak of Conflict." *Population Reference Bureau*. January 1, 2001. <https://www.prb.org/resources/environmental-scarcity-and-the-outbreak-of-conflict/>.

²⁵⁷ United Nations, "International Day for Preventing the Exploitation of the Environment in War and Armed Conflict." *United Nations*. <https://www.un.org/en/observances/environment-in-war-protection-day>.

²⁵⁸ Daniel Hryhorczuk, et al., "The Environmental Health Impacts of Russia's War on Ukraine." *Journal of Occupational Medicine and Toxicology* 19, no.1 (2024). <https://occup-med.biomedcentral.com/articles/10.1186/s12995-023-00398-y#:~:text=There%20has%20been%20widespread%20chemical,30%25%20of%20Ukraine's%20protected%20areas>.

²⁵⁹ United Nations Environment Programme (UNEP), *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. UNEP, 2009. <https://www.unep.org/resources/report/protecting-environment-during-armed-conflict-inventory-and-analysis-international>.

²⁶⁰ United Nations, "Four Ways Conflict Affects Water Resources and How UN Peacekeeping Helps." *United Nations Peacekeeping*, March 22, 2023, <https://peacekeeping.un.org/en/four-ways-conflict-affects-water-resources-and-how-un-peacekeeping-helps>.

Annotated Bibliography

I. Preventing and Mitigating the Weaponization of Outer Space

Chow, Brian G. "Space Arms Control: A Hybrid Approach." *Strategic Studies Quarterly*, vol. 12, no. 2, 2018, pp. 107–32, <http://www.jstor.org/stable/26430818>.

Strategic Studies Quarterly (SSQ) is a peer-reviewed strategic journal of the United States Air Force for national and international security professionals. This article, "Space Arms Control: A Hybrid Approach," discusses the need for space arms control and proposes a hybrid approach to achieve effective and verifiable control measures for space weapons. The approach includes measures such as prohibiting certain weapons from tailgating satellites, monitoring potential treaty violations, and using pre-launch inspections to prevent long-range weapons from being launched into orbit. The journal goes in-depth to address what Member States can do to achieve peace in space, such as implementing a comprehensive space arms control treaty with measures like prelaunch inspections of spacecrafts, banning certain categories of space-based weapons, and controlling the use of potential weapons in space. By establishing clear guidelines for the registration and technical specifications of space systems, Member States can ensure they are not used for offensive purposes.

Moltz, James Clay. "The Changing Dynamics of Twenty-First-Century Space Power." *Journal of Strategic Security*, vol. 12, no. 1, 2019, pp. 15–43, <https://www.jstor.org/stable/26623076>.

The Journal of Strategic Security (JSS) is a multi-disciplinary forum of strategic security issues drawing from the fields of global security, international relations, intelligence, terrorism, counterterrorism studies, and more. The article, "The Changing Dynamics of Twenty-First Century Space Power," provides an in-depth analysis of the changing dynamics of 21st-century space power, with a focus on the United States (US), Russia, and China. The emergence of factors such as the growth of commercial space start-ups and the presence of increasingly space-capable allies and private companies has had a significant impact on space activities. The article also examines the challenges and opportunities facing the US, Russia, and China's space power, including military, commercial, and technological aspects, such as investing in both civil and military space capabilities; developing effective policies to engage the commercial sector and allies; and the decline in state orders and marketable products for the increasingly competitive and innovation-driven commercial market. The article explains how space power and the promotion of commercial space capabilities are important for UN Member States to ensure national security.

Rajagopalan, Rajeswari Pillai. *The Outer Space Treaty: Overcoming Space Security Governance Challenges*. Council on Foreign Relations, 2021, <http://www.jstor.org/stable/resrep29986>.

The Council on Foreign Relations is an independent, nonpartisan membership organization providing a better understanding the foreign policy choices facing the international community. This article, *The Outer Space Treaty: Overcoming Space Security Governance Challenges*, discusses the challenges and limitations of the current global governance mechanisms for outer space activities, particularly considering the increasing diversification of actors and growing competition in space. It highlights the outdated nature of the 1967 Outer Space Treaty and its subsidiary legal instruments, which are not well-suited to address contemporary challenges, such as the weaponization of outer space and the need to regulate counter-space technologies. This article addresses how UN Member States can create a more effective and inclusive framework for governing outer space activities. The article also recommends formulating new, more inclusive space regulations, stressing the importance of including the voices of emerging powers and developing Member States, ensuring better compliance.

Zahoor, Saadia. "Maintaining International Peace and Security by Regulating Military Use of Outer Space." *Policy Perspectives*, vol. 14, no. 2, 2017, pp. 113–35, <https://www.jstor.org/stable/10.13169/polipers.14.2.0113>.

Policy Perspectives is the flagship journal of the Institute of Policy Studies (IPS), distinctive in combining original research papers with reflective studies and analyses. The article, "Maintaining International Peace and Security by Regulating Military Use of Outer Space," discusses the ambiguity in Article 51 of the UN

Charter regarding the right of anticipatory self-defense and the interpretation of “peaceful use” of space. In its analysis, the article addresses the concerns about the weaponization of space and the potential threats it poses to world peace. The article also advocates the need for a consolidated legal regime to prevent the weaponization of space. Additionally, the article discusses the role of Member States in promoting the peaceful use of space technology for the benefit of humanity to uphold international laws and treaties, such as the 1967 Outer Space Treaty, which prohibits the placement of nuclear or weapons of mass destruction in space.

II. Preventing Environmental Degradation During Times of Conflict

Hupy, Joseph P. “The Environmental Footprint of War.” *Environment and History*, vol. 14, no. 3, 2008, pp. 405–21, <http://www.jstor.org/stable/20723680>.

Environment and History is an interdisciplinary journal that aims to bring scholars in the humanities and biological sciences closer together on present-day environmental problems. The journal article, “The Environmental Footprint of War,” provides a comprehensive overview of the environmental impact of warfare, particularly focusing on the effects of military activities on the physical landscape. The text covers various historical wars, such as WWI, WWII, and the Vietnam War, and discusses the extensive environmental damage caused by explosive munitions, herbicides, and land-clearing operations. It also emphasizes the increasing magnitude and extent of environmental disturbances caused by warfare, extending well beyond the traditional battlefield and into forests, agricultural land, and soil ecosystems. The article helps in understanding the long-term consequences of military actions and the consideration of environmental implications when engaging in conflicts.

Sample, Emily, and Henry Theriault. “Guest Editorial: Environmental Degradation and Genocide.” *Genocide Studies and Prevention* 16, no. 1 (July 2022): 4–10, <https://doi.org/10.5038/1911-9933.16.1.1911>.

Genocide Studies and Prevention is a global, interdisciplinary, non-partisan organization that seeks to research and teach about the nature, causes, and consequences of genocide, and advance policy studies on the prevention of genocide. The journal article, “Guest Editorial: Environmental Degradation and Genocide,” discusses the intersection of environmental degradation, climate change, and mass violence, and how these issues are interconnected with genocide and Indigenous issues. Examining the impact of climate change on vulnerable populations calls for a rethinking of transitional justice and the inclusion of environmental concerns in genocide prevention policy and analysis involves acknowledging the impact of environmental degradation and climate change on vulnerable populations, particularly Indigenous peoples and ethnic minority groups. This approach also requires expanding the traditional understanding of “transitional justice” to recognize the environmental dimension of mass violence. This approach centers Indigenous thought and values and aims to become reparative processes for the non-human, natural world.

Kiernan, Kevin. “Environmental degradation in karst areas of Cambodia: A legacy of war?” *Land Degradation and Development* 21(6), (November 2010), 503 – 519, <https://doi.org/10.1002/ldr.988/>

Land Degradation and Development is an interdisciplinary journal on environmental degradation, mitigation, restoration, and sustainable land management. The article, “Environmental degradation in karst areas of Cambodia,” discusses the continued soil erosion and cave destruction in southwest Cambodia. While other parts of Cambodia have experienced soil loss due to regular human activity, such as vehicular traffic, the alarming rate at which southwest Cambodia’s soil degradation has deteriorated appears to have required additional disturbances to the natural vegetation that stabilizes soil. This 21st century degradation may be explained by the heavy bombing and military involvement in the 1970s southwest Cambodia and neighboring Member States experienced. This article provides a long-term case study of how conflict can negatively impact soil erosion. The article also explains the cross-section of conflict and regular human activity’s role in soil erosion, using the internal displacement of the Cambodian population under the Khmer Rouge regime as a case study.