

QTMUN 2024



Head Office of Territorial Discovery and Official Governance

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Equity Disclaimers

Throughout this conference, delegates will be engaging in complex debates and discussions covering a wide array of topics. As UTMUN seeks to provide an enriching educational experience that facilitates understanding of the implications of real-world issues, the content of our committees may involve sensitive or controversial subject matter for the purposes of academia and accuracy. We ask that delegates be respectful, professional, tactful, and diplomatic when engaging with all committee content, representing their assigned country's or character's position in an equitable manner, communicating with staff and other delegates, and responding to opposing viewpoints.

This Background Guide and Head Office of Territorial Discovery and Official Governance presents topics that may be distressing to some Delegates, including but not limited to the following: aviation accidents, environmental disasters, COVID-19, airline disappearances, territory disputes, and piracy.

UTMUN recognizes the sensitivity associated with many of our topics, and we encourage you to be aware of and set healthy boundaries that work for you. This may include: preparing yourself before reading this background guide, seeking support after reading the background guide, or filling out the committee switch form beforehand. We ask that all Delegates remain considerate of the boundaries that other Delegates set.

UTMUN expects that all discussions amongst delegates will remain productive and respectful of one another. If you have any equity concerns or need assistance in setting boundaries or navigating sensitive subject matter or have any questions at all, please do not hesitate to reach out to our Chief Equity Officer, Harvi Karatha, at equity@utmun.org. We want you to feel safe and comfortable at UTMUN.

If you wish to switch committees after having read the content warnings for this committee for purely an equity-based concern, please do the following:

1. Fill out the UTMUN 2024 Committee Switch Request Form:
<https://forms.gle/EVfikip6r6ACnBooR6>

If you have any equity concerns, equity-based questions, or delegate conflicts at any point, please do any of the following:

1. Email equity@utmun.org to reach Harvi Karatha or email deputy.equity@utmun.org to reach Iva Zivaljevic or reach out to me at hotdog@utmun.org
1. Fill out the Anonymous (if preferred) UTMUN Equity Contact Form:
<https://forms.gle/XEH3DCTwX3JzzSnr6>
1. Notify/Ask any staff member to connect you to Harvi Karatha or Iva Zivaljevic

Model United Nations at U of T Code of Conduct

The below code of conduct applies to all attendees of UTMUN 2024 for the entire duration of the conference, and any conference-related activities (including but not limited to committee sessions, conference socials, committee breaks, and the opening and closing ceremonies).

1. Harassment and bullying in any form will not be tolerated, the nature of which includes, but is not limited to, discrimination on the basis of race, national origin, ethnicity, colour, religion, sex, age, mental and physical disabilities, socioeconomic status, sexual orientation, gender identity, and gender expression,

a. Harassment and bullying include, but are not limited to, insulting and/or degrading language or remarks; threats and intimidation; and intentional (direct or indirect).

discrimination and/or marginalization of a group and/or individual;

i. The above prohibition on harassment, bullying, and inappropriate behaviour extends to any and all behaviour as well as written and verbal communication during the conference, including notes, conversation both during and outside committees, and general demeanour at all conference events;

ii. UTMUN reserves the right to determine what constitutes bullying and/or inappropriate behaviour toward any individual and/or group;

b. Attendees must not engage in any behaviour that constitutes physical violence or the threat of violence against any groups and/or individuals, including sexual violence and harassment, such as, but not limited to,

i. Unwelcome suggestive or indecent comments about one's appearance;

ii. Nonconsensual sexual contact and/or behaviour between any individuals and/or groups of individuals;

iii. Sexual contact or behaviour between delegates and staff members is strictly forbidden;

2. UTMUN expects all attendees to conduct themselves in a professional and respectful manner at all times during the conference. Specific expectations, include, but are not limited to,

a. Attendees must, if able, contribute to the general provision of an inclusive conference and refrain from acting in a manner that restricts other attendees' capacity to learn and thrive in an intellectually stimulating environment;

b. Attendees must adhere to the dress code, which is Western business attire;

i. Exceptions may be made on a case-by-case basis depending on the attendees' ability to adhere to the previous sub-clause;

ii. Attendees are encouraged to contact Chief Equity Officer, Harvi Karatha, at equity@utmun.org with questions or concerns about the dress code or conference accessibility;

- c. Attendees must refrain from the use of cultural appropriation to represent their character and/or country, including the use of cultural dress, false accent, and any behaviour that perpetuates a national or personal stereotype;
- d. Delegates must not use music, audio recordings, graphics, or any other media at any time unless approved and requested to be shared by the Dais and/or the Chief Equity Officer, Harvi Karatha at equity@utmun.org;
- e. Attendees must abide by instructions and/or orders given by conference staff, members;
 - i. Attendees are exempt from this above sub-clause only if the instructions and/or orders given are unreasonable or inappropriate;

3. Delegates, staff, and all other conference participants are expected to abide by Ontario and Canadian laws and Toronto by-laws, as well as rules and regulations specific to the University of Toronto. This includes, but is not limited to,

- a. Attendees, regardless of their age, are strictly prohibited from being under the influence and/or engaging in the consumption of illicit substances, such as alcohol or illicit substances for the duration of the conference;
- b. Attendees are prohibited from smoking (cigarettes or e-cigarettes, including vapes) on University of Toronto property;
- c. Attendees must refrain from engaging in vandalism and the intentional and/or reckless destruction of any public or private property, including conference spaces, venues, furniture, resources, equipment, and university buildings;
 - i. Neither UTMUN nor any representatives of UTMUN is responsible for damage inflicted by attendees to property on or off University of Toronto campus;
 - ii. Individuals will be held responsible for any damages.

4. The Secretariat reserves the right to impose restrictions on delegates and/or attendees for not adhering to/violating any of the above stipulations. Disciplinary measures include, but are not limited to,

- a. Suspension from committee, in its entirety or for a specific period of time;
- b. Removal from the conference and/or conference venue(s);
- c. Disqualification from awards;
- d. Disqualification from participation in future conference-related events.

5. UTMUN reserves the right to the final interpretation of this document.

For further clarification on UTMUN's policies regarding equity or conduct, please see this [form](#). For any questions/concerns, or any equity violations that any attendee(s) would like to raise, please contact UTMUN's Chief Equity Officer, Harvi Karatha, at equity@utmun.org or fill out this anonymous Equity Contact Form: <https://forms.gle/Psc5Luxp22T3c9Zz8>.

Letter From The Director:

To all HOTDOG delegates,

Hello, and welcome to the Head Office of Territorial Discovery and Official Governance (HOTDOG) for UTMUN 2024. My name is Rick Dong, and I am very much looking forward to meeting all of you in February. For a bit about myself, I am a second-year humanities student at the University of Toronto in the history specialist and English minor program. Moreover, I have two years of experience as a delegate in Model United Nations, and I have always loved the research, debate and diplomatic aspects of MUN that has made it unique from other extra-curricular activities.

However, I will not be alone in directing this committee, as I am joined by a dais team consisting of Joanne Stavropoulos who has significantly aided me in writing this background guide, and will be co-directing the committee. I am also joined by Annie Li, who will be helping me moderate this committee.

For this year, two major topics will be discussed, aerospace domains and oceans. In the first topic, delegates will need to critically evaluate the many developments and issues that have arisen in aeronautics, which are present within the subtopics listed below in this background guide. In the second topic, delegates shall debate on the various issues surrounding ocean exploration and protection within the context of twenty-first century geopolitics.

As a reminder on behalf of UTMUN 2024, we ask for all delegates to please remain professional by only engaging in equitable discussions throughout this committee, and we encourage delegates to be well prepared by doing research outside of this background guide, which will be invaluable when writing position papers on the stance of your country, or the potential solutions that you will propose throughout the duration of this committee.

Lastly, if you have any questions or concerns about anything related to researching, citations, position papers, resolutions or UTMUN procedure, do not hesitate to reach out via email. I will do my best to respond with the best of my ability, and within a timely manner.

Best of luck to you all,
Rick Dong
Director of HOTDOG
hotdog@utmun.org

Abbreviations:

HOTDOG

Head Office for Territorial Discovery and Governance

ICAO

International Civil Aviation Organization

IATA

International Air Transport Association

SAF

Sustainable Aviation Fuel

AWI

Airworthiness Inspectors

MRO

Maintenance, Repair and Overhaul

NASA

National Aeronautics and Space Administration

UAV

Unmanned Aerial Vehicles

UTM

Unmanned Aircraft Systems Traffic Management

GASP

Global Aviation Safety Plan

ACAS

Air Collision Avoidance System

UNGA

United Nations General Assembly

UN-OCEAN

United Nations Oceans

ISA

International Seabed Authority

SIDS

Small Island Developing States

NOAA

National Oceanic and Atmospheric Association

AUV

Autonomous Underwater Vehicle

UNCLOS

United Nations Convention on the Law of the Sea

IMO

International Maritime Organization

MPA

Marine Protected Zones

EEZ

Exclusive Economic Zone

SDG

Sustainable Development Goals

Position Papers:

At UTMUN 2024, position papers are required to qualify for awards. Each committee will also give out one Best Position Paper award. Only delegates in Ad Hoc are exempt from submitting a position paper. To learn more about position paper writing, formatting, and submission, please check out the position paper guidelines. Please read through the guidelines carefully as this page will describe content recommendations, formatting requirements, and details on citations. If you have any questions about position paper writing, feel free to contact the Dais through hotdog@utmun.org or reach out to academics@utmun.org.

Introduction:

Throughout human history, an intrinsic need for exploration and discovery has guided humanity towards better understanding the earth. From this, the two most prominent frontiers that humans have yet to fully explore are aerospace and the oceans, which is a necessity towards building a global economy. The aviation sector specializes as the only rapid worldwide transportation network, which has generated at least 62.7 million jobs on a global scale since 2018, and is projected to double in economic growth every 15 years through international trade and tourism.¹ Comparatively, maritime navigation makes up over 80% of the world's trade volume in 2022, and has been considered an international priority for socio-economic security.² However, there exists several pressing issues in both frontiers that need to be addressed. This is the job of the Head Office of Territorial Discovery and Official Governance (HOTDOG), as it provides a forum for UN-member states to discuss economic and social means to better improve both air and ocean transportation. For UTMUN 2024, delegates will be focusing on upholding the need for countries to travel justly in both aviation and maritime settings. Therefore, discussions will be facilitated surrounding the holistic improvement of the world's aviation industry, in addition to addressing oceanic issues within the context of international maritime law.

¹ Uniting Aviation, "Aviation Benefits: A Better Future," Uniting Aviation (blog), February 28, 2018, <https://unitingaviation.com/amp/news/economic-development/aviation-benefits-for-a-better-future/>.

² United Nations, Navigating Stormy Waters, Review of Maritime Transport / United Nations Conference on Trade and Development, Geneva 2022 (Geneva: United Nations, 2022).

Topic 1: Aerospace Domains

Historical Background

The Chicago Convention was drafted by 54 nations in an effort to lay the foundations for standards and procedures to guide peaceful global aerospace.³ In addition to this main objective, the Convention also strived to establish air transport services “on the basis of equality of opportunity”.⁴ Following this, it was to be expected that a specialized organization would be established in order to support the international cooperation necessary for maintaining a peaceful global air transport network. Thus, the International Civil Organization (ICAO) was formed, which addresses this purpose through article 44 of the Convention that guarantees the protection of both people and nation-states in aviation.⁵

Since the Second World War, the ICAO has set international precedents in establishing the core principles that constitute permissible international air transit.⁶ These core principles have evolved since their inception, but nonetheless define how civil aviation is conducted, such as annex 17 passed in 1987 making sure that no baggage is to be transported on international flights unless the owner is onboard and has cleared the security check.⁷ While the core principles that guide these regulations remain relatively consistent, the Convention’s Annexes have increased in number to now include more than 12,000 international standards and recommended practices (SARPs).⁸ All of these practices have been agreed on, by consensus, from the 193 member states of ICAO.⁹

³ ICAO, “The History of ICAO and the Chicago Convention,” accessed September 14, 2023, <https://www.icao.int/about-icao/history/pages/default.aspx>.

⁴ ICAO, “The History of ICAO and the Chicago Convention.”

⁵ Anne-Kirsten Garbe, “CHICAGO CONVENTION ON INTERNATIONAL CIVIL AVIATION,” <https://www.refworld.org/pd/fid/3ddca0dd4.pdf>, n.d.

⁶ ICAO, “The History of ICAO and the Chicago Convention.”

⁷ ICAO, “Milestones in International Civil Aviation,” accessed September 14, 2023, <https://www.icao.int/about-icao/History/Pages/Milestones-in-International-Civil-Aviation.aspx>.

⁸ ICAO, “The History of ICAO and the Chicago Convention.”

⁹ Ibid.

Global Effort to Promote Aircraft Research, Design and Manufacturing

Recent global efforts towards aircraft research, design and manufacturing have been focused on discovering new technology that can improve mobility efficiency and eco-friendliness.¹⁰ The industry has been exploring alternative fuels, electric aircrafts, biometrics, robotics, and blockchain all as ways to make aviation more sustainable and eco-friendly.¹¹ Additionally, the use of artificial intelligence and big data has been explored as a way to increase safety and efficiency.¹² All of these efforts possess the same shared goal: to make aviation more sustainable and reduce its environmental impact.¹³

Consequently, the aviation industry has become increasingly more efficient, despite CO₂ emissions reaching 1.04 billion tonnes in 2018.¹⁴ Aviation only accounts for 2.5% of global CO₂ emissions, and the amount of CO₂ emissions per Revenue Passenger Kilometer (RPK) has decreased to only 0.125 kilograms in 2018, thereby making larger aircrafts carry more passengers.¹⁵ However, since aviation has yet to be decarbonized, there remains a new horizon of discovery with Airbus recently researching hydrogen powered aircraft designs.¹⁶

These considerations remain relevant, as the ICAO has projected that global air passenger demand will return to pre-COVID levels of 4.5 billion people between 2023 and 2025.¹⁷ Per an October 2021 report from the International Air Transport Association (IATA), worldwide airline jet fuel usage dropped 45.4 percent in 2020 due to the pandemic and continued to remain at 39.5 percent below 2019 levels in 2021.¹⁸ Thus, despite these rare drops in jet fuel usage, such emissions are only predicted to increase.¹⁹

While the use of sustainable biofuels mixed with kerosene jet fuel, as well as other mitigation strategies, can help to reduce the environmental impact of aviation, more research is required to fully understand the formation and impact of contrails on the environment.²⁰ Even the most modest growth in air traffic can lead to a significant increase in passenger traffic, which consequently results in an increase in fuel consumption and greenhouse gas emissions.

¹⁰ ICAO, "Future of Aviation," accessed September 14, 2023, <https://www.icao.int/Meetings/FutureOfAviation/Pages/default.aspx>.

¹¹ ICAO, "Future of Aviation."

¹² Ibid

¹³ Ibid

¹⁴ Ritchie, "Climate Change and Flying: What Share of Global CO₂ Emissions Come from Aviation?," Our World in Data, accessed September 14, 2023, <https://ourworldindata.org/co2-emissions-from-aviation>.

¹⁵ Ritchie, "Climate Change and Flying."

¹⁶ Airbus, "At Airbus, Hydrogen Power Gathers Pace | Airbus," June 19, 2023, <https://www.airbus.com/en/newsroom/stories/2023-06-at-airbus-hydrogen-power-gathers-pace>.

¹⁷ ICAO, "ICAO Forecasts Complete and Sustainable Recovery and Growth of Air Passenger Demand in 2023," accessed September 14, 2023,

<https://www.icao.int/Newsroom/Pages/ICAO-forecasts-complete-and-sustainable-recovery-and-growth-of-air-passenger-demand-in-2023.aspx>.

¹⁸ Overton, "Issue Brief | The Growth in Greenhouse Gas Emissions from Commercial Aviation (2019, Revised 2022) | White Papers | EESL," accessed September 14, 2023, <https://www.eesi.org/papers/view/fact-sheet-the-growth-in-greenhouse-gas-emissions-from-commercial-aviation>.

¹⁹ Overton, "Issue Brief | The Growth in Greenhouse Gas Emissions from Commercial Aviation (2019, Revised 2022) | White Papers | EESL."

²⁰ Ibid.

Case Study: Lockheed Martin

Lockheed Martin is regarded as a leading force in the international aerospace industry, and has engaged in the research, design, development, manufacturing, integration, and sustainment of advanced technology systems, products, and services.²¹ Within the company, there are four main business segments: aeronautics, missiles and fire control, rotary and mission systems, and space.²²

Lockheed Martin and its subsidiaries have remained engaged in efforts towards making technology more sustainable, including flying for both airplanes and helicopters.²³ At HAI HELI-EXPO 2022, Sikorsky, a Lockheed Martin Company, successfully flew and landed an S-92 helicopter using a blend of Sustainable Aviation Fuel for a 2,400 kilometer flight (SAF).²⁴ This marks the first SAF-powered flight for Milestone Aviation and is a significant step towards a more sustainable future in aviation.²⁵

Sikorsky, however, is not halting its efforts anytime soon, as the company has continued to seek opportunities across its entire fleet to reduce its greenhouse gas emissions, by utilizing Sustainable Aviation fuel.²⁶ The successful use of SAF in the S-92 helicopter raises questions as to how SAF can be used throughout the aviation industry to contribute to the development of more sustainable aviation practices in the future.

²¹ Johnston, "How Lockheed Martin Makes Money," Investopedia, accessed September 14, 2023, <https://www.investopedia.com/articles/markets/102715/how-lockheed-martin-makes-its-money-lmt.asp>.

²² Johnston, "How Lockheed Martin Makes Money."

²³ Lockheed Martin, "S-92® Helicopter Lands at HAI HELI-EXPO 2022 Using Sustainable Aviation Fuel," Media - Lockheed Martin, accessed September 14, 2023, <https://news.lockheedmartin.com/03-07-2022-S-92-Helicopter-Lands-at-HAI-HELI-EXPO-2022-Using-Sustainable-Aviation-Fuel>.

²⁴ Lockheed Martin, "S-92® Helicopter Lands at HAI HELI-EXPO 2022 Using Sustainable Aviation Fuel."

²⁵ Ibid.

²⁶ Ibid.

Maintenance and Inspection Guidelines

The ICAO primarily legislates aircraft maintenance and inspection guidelines through the airworthiness regulatory system.²⁷ From this, the ICAO defines airworthy as: “The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation”, meaning that ICAO member-states are obligated under article 12, 29, 33, 37, 38 and 54 of the 1944 Chicago Convention on International Civil Aviation to uphold the ICAO’s maintenance and inspection guidelines.²⁸ Furthermore, guidelines for Airworthiness Inspectors (AWIs) are also determined by the level of aviation growth in each ICAO member-state.²⁹ All AWIs must have at least 5 years of experience as a fully certified aircraft maintenance mechanic or aviation engineer; the minimum ratio of AWIs to aircraft of a particular type is 1:5 for commercial aviation, and 1:10 for general aviation.³⁰

According to the Oliver Wyman Consulting Firm, the global maintenance, repair and overhaul (MRO) market for aviation grew to 77 billion USD in 2022, and is projected to increase at an annual rate of 2.9%, reaching around 125 billion USD in 2033.³¹ In spite of this projected growth, the MRO sector continues to struggle with shortages in aviation mechanics with a 12,000 worker deficit in North America alone, and aircraft component supply chains that have seen engine prices increase from 31 to 63 billion USD.³² This leads to delayed or inadequate maintenance on aircrafts fleets, which compromises global aviation security and efficiency.³³

NASA, however, has suggested five potential guidelines that can mitigate the amount of quality lapses in judgment for aircraft maintenance and inspection.³⁴ Some of these guidelines include developing a safety culture that values maintenance and regular inspection, constantly improving maintenance personnel training programs, enhancing communication, improving the aircraft design process to reduce errors, and developing improved error detection methods.³⁵ These guidelines are all ways in which airlines and maintenance crews can attempt to reduce their risks of maintenance-related accidents, as well as improve overall flight safety, thereby requiring further discussion by the HOTDOG committee.

²⁷ ICAO, “ICAO-9760-Docs-4thEdition.Pdf,” 2020, v.

²⁸ ICAO, “ICAO-9760-Docs-4thEdition.Pdf,” I-(i)

²⁹ ICAO, “Airworthiness Inspectors Admin Manual.Pdf,” n.d., 7.

³⁰ ICAO, “Airworthiness Inspectors Admin Manual.Pdf,” 7-8

³¹ Prentice et al., “Global Fleet and MRO Market Forecast 2023-2033,” 2023, 44

³² Prentice et al. “Global Fleet and MRO Market Forecast 2023-2033,” 45

³³ Ibid.

³⁴ Kanki and Hobbs, “Maintenance Human Factors and Flight Safety,” in *Human Factors in Aviation and Aerospace* (Elsevier, 2023), 477–515, <https://doi.org/10.1016/B978-0-12-420139-2.00019-8>, 2021, 24-25

³⁵ Kanki and Hobbs, “Maintenance Human Factors and Flight Safety.”, 25-37

International Domain Register

Aviation airspace registration primarily developed from the ICAO's Five Freedoms of the Air, which outlines the fundamental rights that aircrafts are guaranteed when in another ICAO member-state's airspace.³⁶ Such as the freedom for an aircraft to fly across another member-state's airspace without landing, or to put down and take on passengers whose nationality corresponds and differs from the aircraft in question.³⁷ Nonetheless, many issues have remained for the aviation community to confront, such as whether air traffic quotas should be enforced via regulatory competition, thus preventing airline monopolization.³⁸

Unmanned Aerial Vehicles (UAV)

The Unmanned Aerial Vehicles (UAV) industry has been increasingly developed for commercial aviation purposes, creating airspace issues with traditionally crewed aircrafts. UAVs fall into an airspace gray zone, because their increasing ability to perform commercial aviation should qualify them for high-level controlled airspace (ICAO Class A-E).³⁹ But on the other hand, their unmanned nature should be designated as general aviation, which would put UAVs into low-level uncontrolled airspace (ICAO Class F-G).⁴⁰ Attitudes towards UAV development raise concern about in-flight collisions between drones and other aircrafts, along with safe and equitable access to airspace.⁴¹ Furthermore, a survey of 80 stakeholders from various interest groups in general aviation resulted in mostly neutral and agreeing stances when asked about their confidence about whether airspace regulation can allow UAVs to be effectively used for parcel freight and medical logistics.⁴²

³⁶American Historical Association, "What Are the 'Five Freedoms' of Air Transport? | AHA," accessed September 14, 2023, [https://www.historians.org/about-aha-and-membership/aha-history-and-archives/gi-roundtable-series/pamphlets/em-17-how-free-are-the-skyways-\(1945\)/what-are-the-five-freedoms-of-air-transport.](https://www.historians.org/about-aha-and-membership/aha-history-and-archives/gi-roundtable-series/pamphlets/em-17-how-free-are-the-skyways-(1945)/what-are-the-five-freedoms-of-air-transport.), n.d.

³⁷ American Historical Association, "What Are the 'Five Freedoms' of Air Transport? | AHA."

³⁸ Ibid.

³⁹ Grote et al., "Sharing Airspace with Uncrewed Aerial Vehicles (UAVs): Views of the General Aviation (GA) Community," *Journal of Air Transport Management* 102 (July 1, 2022): 102218, <https://doi.org/10.1016/j.jairtraman.2022.102218>.

⁴⁰ Grote et al., "Sharing Airspace with Uncrewed Aerial Vehicles (UAVs)."

⁴¹ Ibid.

⁴² Ibid.

Unmanned Aircraft Systems Traffic Management (UTM)

The ICAO started developing Unmanned Aircraft Systems Traffic Management (UTM) in 2016, and was made on the principles of aviation safety, efficiency, and harmony for all member-states.⁴³ UTM is designed to be integrated with pre-existing air traffic systems, and can be incorporated into several public sectors such as law enforcement, military and healthcare to name a few.⁴⁴ However, system-level requirements for UTM are still developing, which involves UAV aircraft priority, operational, liability and cyber-security procedures.⁴⁵ Moreover, the technology used to implement UTM depends on the member-state, which can create interoperability problems since the UTM framework requires services in aeronautical information, registration, flight planning, tracking/location and weather to be available between member-states.⁴⁶

Prevention of Aviation Accidents

The ICAO 2022 Safety Report states that from 2020-2021, global aviation accident rates decreased from 2.14 to 1.93 per million departures in 2021, and that fatalities have decreased from 298 to 104 people.⁴⁷ Nevertheless, these positive results do not meet the ICAO's Global Aviation Safety Plan (GASP) of zero aviation fatalities by 2030.⁴⁸ Therefore, more priority must be put on addressing High-risk Categories (HRCs) in global aviation that cause the most fatalities.⁴⁹ Considering that scheduled commercial flights have increased 11% from 2020 to 2021, the ICAO has recently implemented more Safety Enhancement Initiatives which have yet to be determined either effective or ineffective.⁵⁰ Such initiatives include a Global Reporting Format (GRF) for runway surface conditions, the International Aviation Trust Framework to reduce cyber-attack risks, and State Programme Implementation Assessments (SSPIAs) to evaluate a country's airline safety effectiveness.⁵¹

⁴³ ICAO, "UTM-Framework.En.Alltext.Pdf," n.d., 5

⁴⁴ ICAO, "UTM-Framework.En.Alltext.Pdf," 7

⁴⁵ Ibid. 12-19

⁴⁶ Ibid. 13

⁴⁷ ICAO, "2022 ICAO Safety Report Presents Positive Results," accessed September 14, 2023, <https://www.icao.int/Newsroom/Pages/Latest-ICAO-Safety-Report-released.aspx>.

⁴⁸ ICAO, "Doc 10004 Global Aviation Safety Plan 2020-2022 Edition," n.d., I-1-3

⁴⁹ ICAO, "Doc 10004 Global Aviation Safety Plan 2020-2022 Edition," I-3-4

⁵⁰ ICAO, "2022 ICAO Safety Report Presents Positive Results."

⁵¹ ICAO, "Safety Report 2022 Edition" n.d.

Case Study: Airborne Collision Avoidance Systems

Airborne Collision Avoidance Systems (ACAS) are designed to reduce the probability of aircraft colliding mid-air.⁵² ACAS II employs transponder signals in order to track the altitude and range of nearby aircraft and assess the threat of a potential collision.⁵³ If a threat is detected, ACAS II issues a Resolution Advisory (RA) to the pilot, which serves to provide guidance on how to avoid the potential collision.⁵⁴ Pilots are required to comply immediately with all RAs, whether or not they comply with ATC clearances or instructions, because ACAS II serves as a last-resort safety net, irrespective of any separation standards.⁵⁵

There are many concerns about the most recent ACA X systems to cyberattacks, as the ICAO in 2005 has mandated all aircrafts exceeding 5700 kilograms, or allowed to carry more than 19 passengers must have ACAS equipped.⁵⁶ In 44% of the cases undertaken in a recent study by the Journal of Transportation Security, it was discovered that an attacker can successfully trigger a collision avoidance alert, which on average results in a 590 ft altitude deviation, causing a ripple effect that endangers more air traffic.⁵⁷ When the aircraft is at lower altitudes, the attacker's success rate rises considerably to 79%, which raises concerns about the safety and security of airline systems, and underscore the need for continued research and development in cybersecurity for aviation.⁵⁸

There have been a variety of countermeasures taken to defend against these cyberattacks, both on the ground and aircraft level.⁵⁹ Signal analysis, as well as continuously adapting the current ACA systems to protect against these attacks have been suggested, and multi-layered approaches have been advocated for in order to research further potential defense efforts against these attacks.⁶⁰

⁵² Skybrary, "Airborne Collision Avoidance System (ACAS) | SKYbrary Aviation Safety," accessed September 14, 2023, <https://skybrary.aero/articles/airborne-collision-avoidance-system-acas>.

⁵³ Skybrary, "Airborne Collision Avoidance System (ACAS) | SKYbrary Aviation Safety."

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Smith et al., "Understanding Realistic Attacks on Airborne Collision Avoidance Systems," *Journal of Transportation Security* 15, no. 1 (June 1, 2022): 87–118, <https://doi.org/10.1007/s12198-021-00238-2>.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid.

International Collaboration of Air Transportation Safety Investigations and Reports

Annex 13 of the ICAO is primarily responsible for air transportation safety investigations and reports.⁶¹ In it, the Manual of Aircraft Accident and Investigation, also known as DOC9756 outlines the full process of making a report, which is organization and planning; procedures and checklists; investigation; and reporting.⁶² The civil aviation authority of each ICAO member-state is responsible for creating their own investigation and reporting processes, which poses efficiency challenges due to a lack of standardization.⁶³ For investigations specifically, the ICAO has published guidelines that include collecting data from accident particulars, meteorological, technical, and human factors.⁶⁴ Safety reports also stretch into an airline's systematic management systems and corporate culture, which is very subjective since it involves many individuals with differing perspectives.⁶⁵

Aside from the ICAO, the International Air Transport Association (IATA) has also provided their own methods for air transportation safety investigations and reports.⁶⁶ The IATA's Security Management Systems (SeMS) are a proactive alternative to the ICAO, which is focused on effectively collaborating and reporting security risks between airlines and nation-states.⁶⁷ Threat and security management is also at the forefront, with a security residual formula taking into account a threat level, vulnerability, consequence and mitigation.⁶⁸ But in order for this to work, countries must develop complementary/compatible security programs, which can prove to be difficult.⁶⁹

⁶¹ ICAO, "Documents," accessed September 14, 2023, <https://www.icao.int/safety/airnavigation/aig/pages/documents.aspx>.

⁶² ICAO, "Manual of Aircraft Accident and Incident Investigation Part III - Investigation," 2012, III-1-3

⁶³ ICAO, "Manual of Aircraft Accident and Incident Investigation Part III - Investigation," III-3-11

⁶⁴ ICAO, "Manual of Aircraft Accident and Incident Investigation Part III - Investigation" III-1-1

⁶⁵ Ibid. III-3-1 to III-3-11

⁶⁶ IATA, "What You Need to Know About Aviation Security," accessed September 14, 2023, 2023

<https://www.iata.org/en/publications/newsletters/iata-knowledge-hub/what-you-need-to-know-about-aviation-security/>.

⁶⁷ IATA, "What You Need to Know About Aviation Security."

⁶⁸ Ibid.

⁶⁹ Ibid.

Case Study: Malaysia Airlines Flight 370

On March 8th, 2014, Malaysia Airlines Flight 370 disappeared during a scheduled flight from Kuala Lumpur to Beijing.⁷⁰ The Boeing 777 with 227 passengers and 12 crew members on board vanished without a trace, with many presuming that it crashed into the Indian Ocean just west of Australia.⁷¹ Consequently, a massive search effort was launched covering that area, along with the South China Sea, Central Asia, and even the east coast of Africa once a flaperon debris belonging to MH370 was found off the French island of Réunion.⁷²

According to the Malaysian government's official safety investigation report of MH370, the governments of Malaysia, Australia, and China found no substantial leads on a possible hijacking or suicide attempt.⁷³ The pilot's flight simulator was also investigated, but indicated no suspicious flight paths similar to MH370, since the Royal Malaysian Police could not determine whether the waypoints set from the Andaman Sea were from one or more files.⁷⁴ Furthermore, the safety investigation yielded no conclusive evidence on the causes of the disappearance, with mechanical failure being deemed as extremely unlikely, and no individual or organization claiming responsibility for the disappearance.⁷⁵

The disappearance of Malaysia Airlines flight 370 raises important air transportation safety questions, such as the need for improved tracking and communication systems for commercial aircraft.⁷⁶ Many limitations of pre-existing technologies, such as those used to locate missing technology, were highlighted, as a result of the event.⁷⁷

⁷⁰ Gregersen, "Malaysia Airlines Flight 370 Disappearance | Description & Facts | Britannica," August 14, 2023, <https://www.britannica.com/event/Malaysia-Airlines-flight-370-disappearance>.

⁷¹ Gregersen, "Malaysia Airlines Flight 370 Disappearance | Description & Facts | Britannica."

⁷² Ibid.

⁷³ Ibid.

⁷⁴ MH370 Safety and Investigation Team "SAFETY INVESTIGATION REPORT Malaysia Airlines Boeing B777-200ER (9M-MRO) 08 March 2014," 2018, 27

⁷⁵ Gregersen, "Malaysia Airlines Flight 370 Disappearance | Description & Facts | Britannica."

⁷⁶ Ibid.

⁷⁷ Gregersen, "Malaysia Airlines Flight 370 Disappearance | Description & Facts | Britannica."

Questions to Consider:

- How can civil aviation security measures be further improved in accordance with GASP's plan of zero fatalities in aviation accidents without compromising the increasing demand of aircrafts?
- What international airspace guidelines should be legislated to further integrate UAVs with traditionally manned aircrafts?
- What can be done to mitigate the shortage of personnel and components for aircraft maintenance/inspection without compromising aviation security?
- How can countries develop complementary and compatible security programs without compromising national security?

Topic 2: Oceans

Historical Background

Like aerospace, the UN also has a keen interest in maintaining the world's oceans. Hence, the UN General Assembly's (UNGA) formation of United Nations-Oceans (UN-Oceans) in 2003, which functions as an inter-agency mechanism dedicated to strengthening coordination between UN system activities near oceans and coastal areas.⁷⁸ Moreover, UN-Oceans has hosted yearly meetings for participants on discussing and updating ocean information, with a focus on ensuring that any information generated is disseminated to related UN bodies such as the International Seabed Authority (ISA).⁷⁹

From this, the 2022 UN Ocean Conference has championed the Lisbon Declaration known by the phrase "Our ocean, our future, our responsibility", which affirms how the oceans are vital to sustaining life on earth through oxygen production, greenhouse gas absorption, and providing livelihoods.⁸⁰ However, the Lisbon Declaration also acknowledges that the oceans are currently in a state of global emergency, as the lack of enforcing pre-existing international maritime legislations have resulted in rising geopolitical tensions, climate change and marine pollution continuing to negatively affect oceanic environments through the loss of biodiversity.⁸¹

When considering that coastal populations are projected to generate 3 trillion USD in the world economy by 2030, the need to build sustainable blue economies must also be considered despite lacking a universally defined term.⁸² It is important to note that blue economies already include industries such as fisheries, aquaculture, tourism, shipping, sea-floor mining and marine biotechnology, which are imperative factors for the economic security of small island developing states (SIDS).⁸³ For effective and productive discussions, delegates will need to negotiate a balance between environmental, social and economic sustainability without it coming at the expense of SIDS.

⁷⁸ United Nations, UNCITRAL Expedited Arbitration Rules 2021: UNCITRAL Rules on Transparency in Treaty-Based Investor-State Arbitration. (United Nations, 2022), <https://doi.org/10.18356/9789210021753>. 6 and 45

⁷⁹ United Nations, UNCITRAL Expedited Arbitration Rules 2021. 46

⁸⁰ United Nations Ocean Conference "Report of the 2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development" 2022.,

⁸¹ United Nations Ocean Conference, "United Nations Ocean Conference "Report of the 2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development". 6-7

⁸² United Nations, "Sustainable Blue Economy Vital for Small Countries and Coastal Populations," United Nations (United Nations, 2022), <https://www.un.org/en/desa/sustainable-blue-economy-vital-small-countries-and-coastal-populations>.

⁸³ United Nations, "Sustainable Blue Economy Vital for Small Countries and Coastal Populations,"

Advancing Research and Technology in Ocean Exploration

The ocean is the only frontier on earth that remains vastly undiscovered. According to the National Oceanic and Atmospheric Administration (NOAA), only 25% of the ocean has been accurately mapped using multibeam sonar systems in 2023.⁸⁴ Nevertheless, mapping the seafloor is only a starting point for ocean exploration, because it cannot show more detailed discoveries such as specific species on the seafloor, in water columns, or how they interact with each other, which is crucial to better understanding the earth as there are between 460,000 to 660,000 marine species that have yet to be discovered.⁸⁵ Fortunately, since ocean exploration shares many similarities with outer-space, major research has been conducted in biomimetic structures and propulsion mobility; artificial intelligence and cooperative networks; and life detecting instruments for Autonomous Underwater Vehicles (AUVs).⁸⁶ This has most notably resulted in the proposal to establish permanent deep-sea infrastructure projects to facilitate creations such as the RoboSimian. and Exobiology extant life surveyor from NASA-JPL that are designed to mimic underwater locomotion from Simian primates and sea-snakes respectively.⁸⁷

However, developing research and technological equipment for ocean exploration is incredibly expensive, as both AUVs and Human Operated Vehicles (HOVs) cost anywhere from 100,000 USD to 10 million USD per unit.⁸⁸ Furthermore, the equipment needed for effective ocean exploration is inequitably distributed across the world, since only 48% of ocean researchers in Africa, Oceania, Latin America and the Caribbean have reported access to salinity, temperature and depth measuring equipment.⁸⁹ But new developments for low-cost ocean exploration technology are still in development, such as the Maka Niu, which costs less than 10,000 USD per unit, and can illuminate deep water columns for modular imagery analysis that is able to detect deep-sea organisms.⁹⁰ For SIDS, this type of low-cost ocean exploration development has culminated in the My Deep Sea, My Backyard project hosted by Trinidad and Tobago, along with Kiribati to mitigate the effects of inequitable deep-ocean knowledge generation.⁹¹ This successfully forged extensive partnerships between local, regional and international organizations on using the ReelCam and Trident Rover to map the Gilbert Archipelago.⁹²

⁸⁴ NOAA, "How Much of the Ocean Has Been Explored?: Ocean Exploration Facts: NOAA Office of Ocean Exploration and Research," accessed September 14, 2023, <https://oceanexplorer.noaa.gov/facts/explored.html>.

⁸⁵ NOAA, "How Much of the Ocean Has Been Explored?"

⁸⁶ Aguzzi et al., "Developing Technological Synergies between Deep-Sea and Space Research," *Elementa: Science of the Anthropocene* 10, no. 1 (February 8, 2022): 00064, <https://doi.org/10.1525/elementa.2021.00064>. 4

⁸⁷ Aguzzi et al., "Developing Technological Synergies between Deep-Sea and Space Research." 2 and 10

⁸⁸ Bell et al., "Low-Cost, Deep-Sea Imaging and Analysis Tools for Deep-Sea Exploration: A Collaborative Design Study," *Frontiers in Marine Science* 9 (2022), <https://www.frontiersin.org/articles/10.3389/fmars.2022.873700>. 2

⁸⁹ Bell et al., "Low-Cost, Deep-Sea Imaging and Analysis Tools for Deep-Sea Exploration." 2

⁹⁰ Ibid. 4-5

⁹¹ Amon et al. "My Deep Sea, My Backyard: A Pilot Study to Build Capacity for Global Deep-Ocean Exploration and Research," accessed September 14, 2023, <https://doi.org/10.1098/rstb.2021.0121>. 1-2

⁹² Amon et al. "My Deep Sea, My Backyard." 5-6

United Nations Convention on the Law of the Sea

The 1982 United Nations Law of the Sea (UNCLOS) remains the most prominent piece of international maritime legislation, because it is described by the International Maritime Organization (IMO) as “A comprehensive regime of law and order in the world’s oceans and seas establishing rules governing all uses of the oceans and their resources.”⁹³ Furthermore, the UNCLOS has been regularly updated by the UNGA in 2015 to be legally binding on an international level, and in 2017 to address sustainable conservation of marine biodiversity in areas beyond national jurisdiction, along with maritime genetic resources, area based management tools for Marine Protected Areas (MPAs), and marine technology transferring capacity.⁹⁴

In accordance with the UNCLOS, all UN member-states are granted territorial waters, contiguous zones, and exclusive economic zones (EEZs) that are 12, 24 and 200 nautical miles from the coastline.⁹⁵ Additionally, all civil and commercial ships that do not engage in military aggression, espionage or piracy are granted the freedom of innocent passage through any nation’s EEZ, and international waters.⁹⁶ Naval warships on the other hand are granted the right to visit any ship that has shown a reasonable suspicion of violating international peace.⁹⁷

While 168 nations have ratified the UNCLOS so far, a plethora of issues have yet to be addressed.⁹⁸ The 2022 UNCLOS Report highlights that after granting coastal states with jurisdiction over 90% of all global fisheries, the amount of overfished stocks in the world has risen to 35% since 2019, which is largely due to the UNCLOS lacking articles for sustainable aquaculture development and making enforcement the responsibility of individual member-states.⁹⁹ Likewise, deep-sea mineral extraction faces a similar challenge to fisheries, as the ISA determined in the 1994 Part XI Agreement that all deep-sea minerals are the collective cultural property of humankind.¹⁰⁰ Thus, compromising the international community’s ability to protect marine environments because of vague interpretations that blur the line between mineral extraction and marine exploration.¹⁰¹

⁹³ IMO, “United Nations Convention on the Law of the Sea,” accessed September 14, 2023, <https://www.imo.org/en/ourwork/legal/pages/unitednationsconventiononthelawofthesea.aspx>.

⁹⁴ IMO, “United Nations Convention on the Law of the Sea.”

⁹⁵ United Nations, “United Nations Convention on the Law of the Sea” 1982. 27, 35 and 44.

⁹⁶ United Nations, “United Nations Convention on the Law of the Sea” 1982. 31-33

⁹⁷ Ibid. 63

⁹⁸ United Nations, “United Nations Convention on the Law of the Sea at 40 Successes and future prospects” 2020. 2

⁹⁹ United Nations, “United Nations Convention on the Law of the Sea at 40 Successes and future prospects” 5-6 and 22

¹⁰⁰ Ibid. 8

¹⁰¹ Ibid.

Protection of Marine Environment and Biodiversity

Based on the 2023 UN Sustainable Development Goal (SDG) Report, SDG 14, better known as Life Below Water, is being threatened at an unprecedented rate from anthropogenic factors such as ocean pollution, acidification and unsustainable fishing.¹⁰² In spite of more frequent citizen-science initiatives aimed at cleaning only beaches, plastic pollution continues to be a global issue since the 17 million metric tonnes of plastic within the ocean in 2021 is expected to at least double by 2040.¹⁰³ Furthermore, 2022 has seen a rise in both ocean acidification, along with illegal, unreported and unregulated (IUU) fishing.¹⁰⁴ This is evident by the average ocean pH decreasing to 8.1, which is 30% more acidic than in pre-industrial times, and caused the amount of ocean acidification monitoring stations to increase from 178 in 2021 to 539 in 2023; which is in addition to IUU causing losses of 26 million tonnes of fish, or 23 billion USD on an annual basis.¹⁰⁵

While the international community has recently agreed to protect at least 30% of the world's oceans in 2022, there is still a long way to go.¹⁰⁶ The World Database on Protected Areas states that only 18.7% of national, and 1.44% of international waters have been designated as MPAs, which is 30 million square kilometers, or about 8.17% of the world's oceans.¹⁰⁷ This challenge is indicative of a larger issue surrounding the protection of marine environments and biodiversity, as the Organization for Economic Co-operation and Development's (OECD) 2020 report on sustainable oceans highlight how difficult it is to mainstream marine biodiversity for policy makers when they are distracted by conflicting political economic interests within and between nations.¹⁰⁸

¹⁰²United Nations, "The-Sustainable-Development-Goals-Report-2023.Pdf," 2023. 40

¹⁰³ United Nations, "The-Sustainable-Development-Goals-Report-2023.Pdf," 40

¹⁰⁴ Ibid. 41

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ Protected Planet, "Marine Protected Areas," Protected Planet, accessed September 14, 2023, <https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas>.

¹⁰⁸ OECD, "OECD work in support of a sustainable ocean" 2020, 6-8

Case Study: Australia

Australia serves as an excellent case study on how to overcome internal barriers in mainstreaming marine biodiversity through their recent marine protection projects. For context, Australia currently possesses 15 million square kilometers of EEZ, with the most prominent ecosystems including the Great Barrier Reef, Lord Howe Island, Ningaloo Reef, and Shark Bay.¹⁰⁹ But with increasing anthropogenic pressures threatening the inherent resilience of these ecosystems, Australia has lost 91% of its most common oyster populations, or about 6,400 square kilometers of its shellfish reefs by 2018.¹¹⁰ Thus, resulting in Nature Conservancy Australia's 2020 Reef Builder project, which framed the protection of shellfish reefs as sustainable socioeconomic development for both public and private sectors, and with a cost-benefit analysis showing that the fishing tourism market alone could quadruple in value when compared to initial shellfish restoration investments, the project received a \$20 million AUD federal grant.¹¹¹ From 2015 to 2021, Australia's public and private sectors have funded \$40 million AUD for 35 shellfish restoration projects, with 11 more planned in 2022, and each project averaging to restore 20 hectares of shellfish reef.¹¹² Nonetheless, Australia still has a long way to go in terms of effectively legislating the protection of marine environments, because marine restoration projects generally lack established policy legislations, which classifies them as infrastructure development rather than conservation projects.¹¹³

¹⁰⁹ Bay et al., "Management Approaches to Conserve Australia's Marine Ecosystem under Climate Change," *Science* 381, no. 6658 (August 11, 2023): 631–36, <https://doi.org/10.1126/science.adi3023>. 1

¹¹⁰ Dominic McAfee et al., "Turning a Lost Reef Ecosystem into a National Restoration Program," *Conservation Biology* 36, no. 6 (2022): e13958, <https://doi.org/10.1111/cobi.13958>. 3

¹¹¹ McAfee et al., "Turning a Lost Reef Ecosystem into a National Restoration Program," 5

¹¹² *Ibid.* 7

¹¹³ *Ibid.* 8

Piracy

Piracy on an international level has been declining since the early 2000s, as the IMO's report of 578 annual incidents in 2011 dropped by 60% in 2020.¹¹⁴ Moreover, independent analysis of over 863 piracy cases throughout the 2010 decade shows that 77.9% of all pirate attacks occur between 8 PM and 8 AM, and that 57.3% of pirates prefer to attack tankers and cargo ships.¹¹⁵ In the past, many Western and Central African states have adopted the 2013 Yaoundé Architecture, which introduced a three-pronged resolution to address piracy.¹¹⁶ The first step was to criminalize and penalize piracy under the UNCLOS, this is best exemplified with Nigeria's 2019 Suppression of Piracy and Other Maritime Offences Act, leading to their first successful arrest and prosecution of pirates in the Ivorian EEZ.¹¹⁷ Secondly, mitigate the root cause of piracy by decreasing youth unemployment and poverty rates with economic investment into local businesses.¹¹⁸ Then thirdly, improve cooperation between signatory states through information dissemination, and develop joint naval task forces dedicated to prevent piracy incidents.¹¹⁹ Nevertheless, piracy remains an ongoing issue since it is concentrated near states with weak EEZ enforcement, such as the South China Sea, Malacca Strait, Gulf of Aden, and Gulf of Guinea, making up 79.4% of all piracy cases from 2010 to 2020.¹²⁰

It should also be noted that according to the Gard maritime insurance company, despite piracy trends in Africa decreasing from 2018 to 2022, the exact opposite is true for Asia.¹²¹ Annual piracy rates in Asia have increased from 82 in 2021 to 85 in 2022, with the Straits of Malacca and Singapore accounting for 49 and 55 of those cases respectively.¹²² This is due to both locations being vital shipping routes that connect trade between the Middle East and Asia, but all cases have fortunately been classified as low-level armed robbery, and there have been no reports of people being abducted by pirates for ransom since 2020.¹²³ But in order to determine what solution should best be implemented for Asia, it is important to look at how modern piracy developed.

¹¹⁴ Akan, Gültekin, and Sibel Bayar, "Statistical Analysis of Maritime Piracy Cases in World Territorial Waters," *Journal of Transportation Security* 15, no. 3 (December 1, 2022): 263–80, <https://doi.org/10.1007/s12198-022-00251-z>. 265

¹¹⁵ Akan, Gültekin, and Bayar, "Statistical Analysis of Maritime Piracy Cases in World Territorial Waters," 276

¹¹⁶ United Nations, "Ongoing Decline in Gulf of Guinea's Piracy, Armed Robbery Encouraging, But Support Needed to Fully Implement Yaoundé Architecture, Briefers Tell Security Council | UN Press," accessed September 14, 2023, <https://press.un.org/en/2023/sc15331.doc.htm>.

¹¹⁷ United Nations, "Ongoing Decline in Gulf of Guinea's Piracy, Armed Robbery Encouraging, But Support Needed to Fully Implement Yaoundé Architecture, Briefers Tell Security Council | UN Press,"

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ Akan, Gültekin, Sibel Bayar, "Statistical Analysis of Maritime Piracy Cases in World Territorial Waters," 276

¹²¹ Gard Corporation, "Piracy Trends and High Risk Areas," accessed September 14, 2023, <https://www.gard.no/web/articles?documentId=34977995>.

¹²² Gard Corporation, "Piracy Trends and High Risk Areas,"

¹²³ Gard Corporation, "Piracy Trends and High Risk Areas,"

Case Study: Somalia

After the Somali state collapsed in 1991 due to political instability, the fisheries that once provided many Somali fishermen with livelihoods were left unprotected, thereby allowing up to 200 foreign fishing vessels conduct illegal fishing practices off the Somali coast from 1991 to 1999.¹²⁴ In response, many Somali fishermen turned vigilante by boarding and attacking any foreign fishing boat off near their coast, but once they realized that piracy could make a better living due to the high amount of potential resources and hostages, it marked the beginning of modern piracy in Somalia with the hijacking of the *Bonsella* merchant vessel in 1994.¹²⁵ By 2006, Somali piracy was conducted by many decentralized, but organized gangs that began competing for power, such as the Transnational Federal Government, Somali National Volunteer Coastguard, and Somali Marines who pioneered the use of speedboats dispatched by motherships to increase operational range.¹²⁶ Somali piracy stoked international attention in 2009 after the *Sirius Star*, and *Maersk Alabama* were hijacked, forcing the international community to successfully cooperate with increased naval patrols, and allowing armed security personnel on merchant ships in 2011.¹²⁷

Recently in 2021, the UN Security Council passed Resolution 2608 under Chapter VII of the UN Charter. This not only continues to condemn all forms of piracy, but also affirms that “investigations and prosecutions must continue for all who ‘plan, organize, illicitly finance or profit from pirate attacks off the coast of Somalia’”.¹²⁸ From this, the international community recommends that Somalia, along with the rest of the international community must adhere to the UN Convention against Transnational Organized Crime, which means criminalizing and shutting down illicit financial support structures for piracy networks.¹²⁹

¹²⁴ Lucas, “Somalia’s ‘Pirate Cycle’: The Three Phases of Somali Piracy,” *Journal of Strategic Security* 6, no. 1 (March 2013): 55–63, <https://doi.org/10.5038/1944-0472.6.1.5>. 57-58

¹²⁵ Lucas, “Somalia’s ‘Pirate Cycle’: The Three Phases of Somali Piracy,” 58

¹²⁶ *Ibid.* 58-59

¹²⁷ *Ibid.* 61-62

¹²⁸ United Nations “Somalia: Security Council Adopts Resolution to Keep Pirates at Bay | UN News,” December 3, 2021, <https://news.un.org/en/story/2021/12/1107192>.

¹²⁹ United Nations “Somalia: Security Council Adopts Resolution to Keep Pirates at Bay | UN News,”

Limiting Power Struggle for Ocean Territories

According to the Carnegie Endowment for International Peace, power struggles between countries for ocean territory remain ongoing, with the Indian Ocean having the most geopolitical tensions.¹³⁰ Generally, maritime power struggles consist of countries competing to bolster their military presence on key geographic choke points that connect to their trading routes, thereby allowing for selective protection and interdiction of shipping in times of war or peace.¹³¹ With this in mind, the two most significant contenders for Indian Ocean territory after the Cold War are India and China.¹³² While India's navy claims responsibility over the ocean named after them, China continuously challenges that perception through their Belt and Road Initiative.¹³³ Thus, resulting in geopolitical tension on some of the most contested Sea Lines of Communication (SLOC), which include the Straits of Bab-el-Mandeb, Hormuz and Malacca, along with the Mozambique Channel.¹³⁴

It should also be noted that geographic choke points are not all narrow bodies of water, but also SIDS that are often in conflict with littoral states over sovereignty.¹³⁵ Examples of which include Britain's territorial dispute with Mauritius over the Chagos Archipelago, and France's dispute with Comoros and Madagascar.¹³⁶ Nonetheless, any development in maritime sovereignty disputes usually come at the expense of SIDS, because they lack the adequate enforcement capacities to protect their EEZs from the economic interests of more powerful states.¹³⁷ This is what plays a key role in perpetuating power struggles for Indian Ocean territory, as it possesses rich mineral deposits of copper, cobalt, nickel, zinc and gold worth up to 8 trillion USD in 2023.¹³⁸ Moreover, when considering that mineral products made up the Indian Ocean's largest export, and second largest import commodity in 2021, many countries will continue to compete for territory despite not being able to effectively conduct deep-sea mineral extraction yet.¹³⁹

¹³⁰ Baruah, "What Is Happening in the Indian Ocean?," Carnegie Endowment for International Peace, accessed September 14, 2023, <https://carnegieendowment.org/2021/03/03/what-is-happening-in-indian-ocean-pub-83948>.

¹³¹ Baruah, "What Is Happening in the Indian Ocean?,"

¹³² Ibid.

¹³³ Ibid.

¹³⁴ Ibid.

¹³⁵ Baruah, Labh, and Greely, "Mapping the Indian Ocean Region," Carnegie Endowment for International Peace, accessed September 14, 2023, <https://carnegieendowment.org/2023/06/15/mapping-indian-ocean-region-pub-89971>.

¹³⁶ Baruah, Labh, and Greely, "Mapping the Indian Ocean Region,"

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Ibid.

Case Study: Canada-Denmark Hans Island Resolution

While it is disheartening that power struggles for ocean territory are ongoing, the recent Canada-Denmark Hans Island Resolution proves that disputes can be peacefully resolved with diplomacy. The conflict began in 1973 when both countries agreed to demarcate their borders between the Ellesmere Island making up modern Nunavut, and the northwestern coast of Greenland.¹⁴⁰ However, since the treaty was kept vague on establishing borders in the Hans Island, both Canada and Denmark claimed sovereignty over the uninhabited 1.3 square kilometer rock.¹⁴¹ Canada has continuously cited the 1880 Adjacent Territories Order that gave them ownership of all British Arctic territory, but Denmark has refuted this legal basis by citing the 1933 Permanent Court of Arbitration decision to make Greenland a semi-autonomous part of Denmark; it also did not help that Hans Island is 10 nautical miles from both country's Arctic coastlines.¹⁴² This directly led to the Whiskey Wars, in which both states sent their militaries to peacefully put their national alcoholic spirits and flag on Hans Island.¹⁴³ While Canada and Denmark did make a joint task force in 2018 with input from the Indigenous Inuit population, it was Russia's Invasion of Ukraine that pushed both countries toward finalizing the June 14, 2022 agreement that used a naturally forming ridgeline to evenly split Hans Island.¹⁴⁴ Despite this agreement allowing the Inuit people the freedom of movement on Hans Island for hunting, fishing, and other cultural practices, it remains vague on whether the freedom of movement also applies to the waters surrounding Hans Island.¹⁴⁵ Moreover, the resolution also does not establish any institutional framework, such as a liaison office, forum or joint commission to implement these Inuit freedoms.¹⁴⁶

¹⁴⁰ Hofverberg, "The Hans Island 'Peace' Agreement between Canada, Denmark, and Greenland | In Custodia Legis," webpage, The Library of Congress, June 22, 2022, [//blogs.loc.gov/law/2022/06/the-hans-island-peace-agreement-between-canada-denmark-and-greenland](https://blogs.loc.gov/law/2022/06/the-hans-island-peace-agreement-between-canada-denmark-and-greenland).

¹⁴¹ Hofverberg, "The Hans Island 'Peace' Agreement between Canada, Denmark, and Greenland | In Custodia Legis,"

¹⁴² Tsiouvalas and Enyew, "The Legal Implications of the 2022 Canada-Denmark/Greenland Agreement on Hans Island (Tartupaluk) for the Inuit Peoples of Greenland and Nunavut," The Arctic Institute - Center for Circumpolar Security Studies, January 24, 2023, <https://www.thearcticinstitute.org/legal-implications-2022-canada-denmark-greenland-agreement-hans-island-tartupaluk-inuit-peoples-greenland-nunavut/>.

¹⁴³ Hofverberg, "The Hans Island 'Peace' Agreement between Canada, Denmark, and Greenland | In Custodia Legis,"

¹⁴⁴ Burke and Raycraft · CBC News ·, "Canada and Denmark Sign Deal to Divide Uninhabited Arctic Island | CBC News," CBC, June 13, 2022, <https://www.cbc.ca/news/politics/canada-denmark-reach-hans-island-deal-after-50-year-dispute-1.6487325>.

¹⁴⁵ Tsiouvalas and Enyew, "The Legal Implications of the 2022 Canada-Denmark/Greenland Agreement on Hans Island (Tartupaluk) for the Inuit Peoples of Greenland and Nunavut,"

¹⁴⁶ Ibid.

Questions to Consider:

- How can the overall cost of producing ocean exploration equipment decrease without compromising quality control and efficiency?
- What incentives should be created to further update the UNCLOS in accordance with modern maritime issues, and improve individual member-state enforcement of the UNCLOS?
- How can nations better cooperate to protect marine environments and biodiversity without causing social, economic or political tension on an international scale?
- What should countries further prioritize when addressing the need to mitigate maritime piracy in Africa and Asia?
- How can power struggles over ocean territory be further reduced without damage to any state's economic and political development?

Tips for Research:

This background guide is meant to provide a basic outline of the key details surrounding the three topics that will be discussed over the course of the conference. It introduces the topics and the relevant subtopics in order to provide delegates with a general understanding of the goals of the committee. This is not meant to be a comprehensive source of information. Delegates are advised to supplement the information provided in the background guide with their own research in order to better these topics and their individual positions in regards to them.

Begin by researching general details about the country that you are representing. This doesn't necessarily need to be in relation to the topics that are covered in this committee, but rather so that you will be able to speak to its current state of affairs and position in the world. Get to know the nation you're representing so that you will be able to portray its contemporary interests well.

Following this, go through the background guide, taking care to note any aspects of it that are relevant to the part of the world that your nation is in. Model UN is meant to highlight the interconnectedness of the world, so think beyond just your individual country and consider its surroundings to understand how it may be impacted. Follow the "Key Resources" provided below to better understand the general topics we will be discussing, looking at the bigger picture but also noting anything that is pertinent to your part of the world.

Once you are comfortable with the topics, begin compiling your research about your country's position on the issues that are highlighted. Use the subtopics to guide your research, and learn about your country's national and international response to them. Look at what your country's stakes are in relation to these subtopics. Don't be afraid to go into the specifics! Look at the different economic and social concepts covered in the Background Guide and connect them to your country's position. Look through the "Questions to Consider" at the end of each topic to further guide your research. The goal is to be able to comfortably defend the interests of the country you are representing and to be able to further those interests throughout the conference.

Lastly, begin thinking about solutions to the issues presented throughout the background guide. Remember that you are to take an objective stance based on what country you are representing, which is why it is so important to keep in mind your respective country's stakes in the issues. Think of how your country would go about presenting resolutions in relation to the two topics in order to prepare yourself for meaningful deliberation throughout the conference. This will allow for an engaging committee, where everyone can bring various perspectives.

Good Luck!

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