UN Environmental Program

Developing a Global Strategy for Climate Change Mitigation in Polar Ecosystems.

BEYMUN 2025

Message from the Dais:

Dear UNEP Delegates,

We send you this message on behalf of the dais members of the United Nations Environmental Program, welcome to this year's BEYMUN at AUB! It truly is a privilege to have you join us this year — a group of passionate, brilliant, and curious minds ready to tackle some of the toughest challenges our world faces. We acknowledge that stepping into a conference room full of talented debaters, detailed discussions, and perhaps a little healthy chaos can be overwhelming at first, but we want you to embrace every moment of it. We hope the laughs over a tricky amendment, the friendships that form over the late-night drafting sessions, the pride you'll feel when you find your voice in the committee, and various other wonderful memories will all compensate for your inspiring efforts.

Keep in mind, this weekend is not just about writing the perfect speech or winning the most awards, it's about growing, learning, and, of course, "the friends we made along the way". It's totally fine to stumble over your words or have a bold idea that might not sound very appealing to others. What matters is to have the courage to stand up, share your thoughts, speak, listen, and try again. We encourage you to be daring, to be kind, and to transform into leaders that we all hope to see shape our future.

We are thrilled to have you with us. We are all delighted to see the creativity, teamwork, and diplomacy you will bring with you to this year's conference. You are capable of more than you know, and we

can’t wait to see you surprise even yourselves. Good luck, and most importantly, enjoy every second of it.

With all our best wishes,

The UNEP Dais

Introduction to The Committee

The United Nations Environment Programme (UNEP) was established in 1972 and functions as the leading global authority on environmental issues under the United Nations framework. Headquartered in Nairobi, Kenya, UNEP focuses on addressing critical challenges such as climate change, biodiversity loss, and pollution while promoting sustainable development. With universal membership of all 193 UN member states, UNEP facilitates global cooperation and provides guidance to countries for improving their quality of life without compromising resources for future generations.

Although UNEP resolutions are non-binding, they hold significant moral and political weight, encouraging member states to take proactive

actions on environmental matters. In addition to policy-making, UNEP works on environmental education, technical assistance, and partnership-building while overseeing significant treaties. For instance, The Montreal Protocol and The Paris Agreement aim to foster a sustainable future.

Principal Organs of the United Nations

The primary goals of the UN are enshrined in its Charter and revolve around fostering global peace and development. One of its key aims is to prevent armed conflict through diplomatic means and to provide a platform for dialogue between nations. The UN also promotes economic development by supporting frameworks that ensure equitable growth, poverty reduction, and sustainable resource management. Another major objective is to protect human rights by setting international norms and monitoring violations. Furthermore, the organization strives to advance social inclusion and gender equality and to ensure environmental sustainability. The UN also coordinates international efforts to respond to humanitarian emergencies, such as natural disasters and displacement caused by conflict.

Rules of Procedure

This committee will operate on the basis of the regular BEYMUN rules of procedure. Delegates are required to use the following motions:

1. Setting the Agenda

"The delegate of [Country X] motions to set the agenda in favor of Topic A/B. "

Yet, this motion will not be used in the conference since there is 1 topic.

2. Speaker's List

“The delegate of [Country X] motions to open the Speaker’s List with a speaker’s time of [Y] seconds. ”

3. Moderated Caucus

“The delegate of [Country X] motions to suspend the debate and move into a moderated caucus to discuss ‘[Subtopic Y]’ for a total time of [Z] minutes, with a speaker’s time of [W] seconds. ”

4. Unmoderated Caucus

“The delegate of [Country X] motions to suspend the debate and move into an unmoderated caucus to [form blocs and alliances / discuss resolutions/work on the working paper or draft resolution / discuss the crisis] for a total time of [Y] minutes. ”

5. Consultation of the Whole

“The delegate of [Country X] motions to suspend the debate and move into a consultation of the whole to discuss [the recommendations elaborated in the previous unmoderated caucus / the crisis] for a total time of [Y] minutes. ”

6. Adjourn the Meeting

“The delegate of [Country X] motions to adjourn the meeting for [Y] minutes for the purpose of [a lunch break / a coffee break]. ”

7. Solicit a Third Party

“The delegate of [Country X] motions to solicit [Third Party Y], as they possess relevant information or expertise regarding [Subtopic Z / the crisis]. ”

8. Press Conference

“The delegate of [Country X] motions to suspend the debate and move into a press conference to discuss [a resolution related to Y / the crisis] for a total time of [Z] minutes. ”

9. Extend the Time of the Unmoderated Caucus

“The delegate of [Country X] motions to extend the duration of the current unmoderated caucus by [Y] minutes. ”

10. Introduce the Draft Resolution

“The delegate of [Country X] motions to introduce the draft resolutions with a speaker’s time of [Y] seconds per author or co-sponsor. ”

11. Close Debate and Move into Voting Procedure

“The delegate of [Country X] motions to close the debate and move directly into voting procedure. ”

(Note: This motion requires a two-thirds majority to pass.

Written Motions:

1. Right of Reply: Delegates can request the right of reply to another delegate who has offended their country. There is no right of reply to a right of reply.
2. Appeal to the Chair's Decision: If the delegates feel that the chair has made an unfair decision, the delegates can send it as a note to the Chair.

Points:

- Point of Order: Used to correct a procedural or factual mistake. Interruptive, but do not overuse it.
- Point of Personal Privilege: Request to leave or adjust comfort (e. g. , temperature). Interruptive.
- Point of Inquiry: Ask about the rules or current stage. Interruptive.
- Point of Information: Ask a question when the floor is open. Not interruptive.
- Point to Instigate a Debate: Challenge another delegate’s resolution stance. Interruptive and subject to chair’s approval.

Mapping to the Sustainable Development Goals

The United Nations Environment Programme (UNEP) directly links its work with the Sustainable Development Goals (SDGs) by addressing the environmental dimensions of sustainable development. UNEP supports key goals like climate action (SDG 13), life below water (SDG 14), life on

land (SDG 15), and responsible consumption and production (SDG 12), through targeted programs, initiatives, and partnerships. It acts as the custodian of multiple environmental indicators used to measure progress toward these goals and collaborates with governments, organizations, and individuals to implement sustainable solutions globally. By integrating environmental priorities into the SDG framework, UNEP ensures that ecological sustainability remains central to global development strategies.

Introduction to The Topic

The polar regions are undergoing some of the most dramatic changes caused by climate change, with warming rates more than double the global average. This phenomenon, known as polar amplification, has accelerated the melting of glaciers and ice sheets, contributing significantly to global sea-level rise. Moreover, these rising seas pose a major threat to coastal areas and communities, increasing the risk of flooding, erosion, and the loss of crucial habitats. Thawing permafrost in polar regions is releasing vast quantities of methane and carbon dioxide into the atmosphere, intensifying global warming and creating a feedback loop where warming leads to further emissions. The unique ecosystems of these regions, home to specially adapted

species like polar bears and seals, are under immense stress as ice retreats and habitats shrink, leading to population declines and disruptions in food chains.

The rapid transformation of polar regions caused by climate change continues to have widespread detrimental effects on natural systems and human populations far beyond the poles. To note, the disruption of atmospheric and oceanic currents due to changes in polar climates has altered global weather systems, resulting in more frequent and severe extreme weather events. For example, stronger and more unpredictable storms, prolonged periods of drought, and shifts in precipitation patterns are becoming increasingly common, straining agriculture, infrastructure, and water resources. These disruptions also affect ocean currents like the Gulf Stream, which plays a vital role in regulating climate and temperatures around the world. As the balance of these systems shifts, it creates a ripple effect, impacting ecosystems and human communities alike.

Indigenous populations in the Arctic, whose traditional lifestyles are intricately linked to the land, ice, and sea, are among the most affected by these changes. Thawing ice and altered ecosystems threaten their subsistence practices, such as hunting and fishing, while also eroding their cultural heritage, which is deeply rooted in the stability of the polar environment. The shrinking ice cover further exposes fragile marine ecosystems to the impacts of human activity, such as increased shipping and resource exploration, putting even more stress on these already vulnerable areas. Hence, the interconnected nature of these changes demonstrates the critical role polar regions play in the global climate system and highlights the urgent need to understand their far-reaching impacts on both natural and human environments.

History and Development of the Topic

The United Nations Environment Programme (UNEP) was established in 1972 following the historic Stockholm conference on the Human Environment, and has grown to become the primary UN body for environmental issues worldwide. The core of sustainable development is UNEP's purpose to inspire, educate and empower countries to improve their quality of life without endangering the welfare of future generations. From recovering the ozone layer to safeguarding seas and advancing a green and inclusive economy, UNEP has led global action on urgent environmental issues for the past 50 years. Additionally, it has

coordinated international responses and science-based policymaking on topics like pollution, climate change, and biodiversity by acting as a “docking station” for multiple multilateral environmental agreements.

By the 1980’s, UNEP had made climate change a central concern in its work, supporting international policy frameworks and scientific evaluations. The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 with assistance from UNEP and the World Meteorological Organization to equip policymakers with credible climate research. Soon after, international commitments were made: the 1992 adoption of the UN Framework Convention on Climate Change and the 2015 Paris Agreement established a framework for limiting global warming to well below 2 degrees Celsius (with a target of 1. 5 degrees). These agreements have benefited greatly from UNEP’s contributions, such as its Emissions Gap Reports, which compare national commitments to climate goals. UNEP’s evaluations inspired nations to improve their climate mitigation efforts by emphasizing the discrepancy between required emission reductions and existing patterns. [1]

Meanwhile, Polar areas have become increasingly recognized as indicators of climate change, with the Arctic experiencing a warming rate twice as fast as the global average, known as Arctic amplification. The Arctic has experienced significant changes, including a drastic decrease in sea ice thickness since 1979, and half of summer sea ice coverage lost over the past 40 years. This rapid change affects weather patterns, sea levels, and biodiversity globally and locally. Record-breaking temperatures and ice shelf collapses have also occurred in the Antarctic, such as the 2022 disintegration of the Conger ice shelf

due to unprecedented heatwaves. These changes underscore the need for focused efforts to save arctic ecosystems as part of the global climate response. [1]

International cooperation has evolved in response to polar issues, leading to the establishment of the Arctic Council and Protection of the Arctic Marine Environment (PAME). The Arctic Council was established in 1996 after Arctic nations introduced the Arctic Environmental Protection Strategy (AEPS) in 1991. UNEP, in collaboration with the Arctic Council and PAME, has provided global advocacy and supported regional projects. UNEP has been warning the international community about polar warming, leading to a more rights-based strategy. In 2022, the UN General Assembly emphasized climate change and environmental degradation as pressing threats to humanity's future, declaring access to a clean, healthy, and sustainable environment a universal human right. This significant turning point in environmental diplomacy highlights the importance of preserving ecosystems, especially in the arctic, for human well-being.

International Actions

A) The Paris Agreement:

One of the most significant international actions addressing climate change is the Paris Agreement. Adopted in Paris on December 12, 2015, this landmark accord brought nations together to combat climate change and limit global temperature rise to well below 2°C above pre-industrial levels, with efforts to limit it to 1. 5°C. The agreement emphasizes the importance of reducing greenhouse gas emissions, adapting to climate impacts, and providing financial support to developing countries for climate action. By setting ambitious targets for emission reductions, the agreement aims to slow the melting of ice sheets and glaciers, which contribute to rising sea levels and disrupt ecosystems. It also encourages nations to invest in research and monitoring of climate impacts, including those in polar ecosystems, to better understand and mitigate the changes occurring in these fragile environments. The agreement's implementation relies on nationally determined contributions (NDCs), where countries outline their plans to reduce emissions and adapt to climate change. Regular updates and reviews ensure accountability and progress toward the global goals.

B) The United Nations Decade of Ocean Science for Sustainable Development (2021– 2030):

The United Nations Decade of Ocean Science for Sustainable Development, often referred to as the "Ocean Decade," is a global initiative launched by UNESCO's Intergovernmental Oceanographic Commission (IOC). Its primary goal is to advance ocean science to support sustainable development and address the challenges posed by climate change, pollution, and biodiversity loss in marine ecosystems, including the polar regions. The Ocean Decade aims to create a framework for international collaboration, enabling scientists, policymakers, and stakeholders to work together to generate actionable knowledge and solutions for ocean sustainability. One of the key focuses of the Ocean Decade is understanding the role of the ocean in regulating the Earth's climate, particularly in polar regions where melting ice and changing ocean currents have global implications. For example, the initiative supports research on the impacts of warming polar waters on marine biodiversity and the release of greenhouse gases from thawing permafrost. It also emphasizes the importance of monitoring changes in polar ecosystems, such as the loss of sea ice and its effects on species like krill, which are a critical food source for many marine animals. The Ocean Decade promotes innovative approaches to ocean science, including the use of advanced technologies like satellite monitoring, autonomous underwater vehicles, and data-sharing platforms. These tools are essential for improving our understanding of the complex interactions between the ocean, climate, and ecosystems. Additionally, the initiative encourages capacity-building and knowledge-sharing, particularly in developing countries, to ensure that all nations can contribute to and benefit from ocean science.

C) UNEP's Polar Regions Initiative:

The Polar Regions Initiative by the United Nations Environment Programme (UNEP) is a comprehensive effort aimed at addressing the unique environmental challenges faced by the Arctic and Antarctic. These regions are critical to the Earth's climate system, acting as natural regulators of global temperatures and weather patterns. However, they are also among the most vulnerable to climate change, with warming rates exceeding the global average. A key component of the initiative is the monitoring and mitigation of ice loss, which has far-reaching consequences for global sea levels and biodiversity. UNEP works to provide evidence-based data to policymakers, enabling informed decisions that prioritize the protection of polar environments. For instance, the initiative emphasizes the reduction of black carbon emissions, which accelerate ice melting, and promotes cleaner energy solutions to minimize environmental impact. Not to mention, UNEP advocates for sustainable tourism practices that minimize environmental degradation and supports regulations to manage shipping routes and resource exploration responsibly. Additionally, the initiative highlights the importance of conserving marine biodiversity, including species like krill, which are vital to the food web in polar ecosystems.

Key terms:

- **Sustainability:** A fundamental principle that means addressing current demands without compromising the capacity of future generations to do the same. In practice, sustainability requires striking a balance between economic growth, social welfare, and environmental preservation. This idea aligns with UNEP's mandate, which is to improve quality of life today without sacrificing ecosystems or resources for future generations.

- **Climate Change Mitigation:** Efforts to decrease global warming by enhancing carbon sinks, or reducing greenhouse gas emissions. Global temperature rise is controlled by effective mitigation; for example, the Paris Agreement mandates significant emission reduction to keep warming to 1. 5 to 2 degrees Celsius above pre-industrial levels. Making the switch to renewable energy, increasing energy efficiency, and safeguarding ecosystems that store carbon are examples of mitigation strategies. [2]

- **Climate Resilience:** The ability of ecosystems and populations to endure, adjust to, and recover from shocks or stress brought on by climate. Enhancing adaptive capacity, such as creating livelihood and infrastructure plans that can withstand harsh weather or changing environmental circumstances, is frequently a prerequisite for building resilience. UNEP promotes a "climate-resilient future" by strengthening ecosystem resilience (e. g. preserving biodiversity to ensure ecosystems continue to operate under climate stress) and enabling communities to adapt to changing climatic conditions.

- **Environmental Governance:** The structures of institutions, rules, regulations, and procedures that societies use to control the environment. Science-based, cross-sector and cross-border decision-making that incorporates the rule of law and public involvement is a hallmark of good environmental governance. Multilateral accords (like those on pollution and climate) and platforms like the UN Environment Assembly, which enable countries to coordinate efforts, promote environmental governance on a global scale.

- **Environmental Human Rights:** The understanding that human rights including life, health, and dignity are advanced by environmental protection and that a healthy environment is a fundamental right. The UN General Assembly publicly proclaimed in July 2022 that everyone has the right to a sustainable, healthy, and a clean environment. . For example, people have the right to consume clean water, breathe clean air, and be shielded from climate calamities. This idea connects environmental preservation with human rights. [3]

Topic in Depth

Polar wildlife and ecosystems are under threat as climate change accelerates ice melt. UNEP's strategy places a strong emphasis on immediate mitigation.

A) Real-Time Climate Data and Scientific Assessments:

UNEP's present polar climate action priorities and initiative are in between actively monitoring, studying, and promoting climate change mitigation in polar ecosystems in response to the rapid changes unfolding in the Arctic and the Antarctic. Providing current scientific facts to emphasize the severity of the situation is a crucial aspect of UNEP's work. For instance, the World Environment Situation Room and UNEP's GRID networks (Global Resource Information Database) provide publicly available climate indicator data. A specific climate change module was added to UNEP's redesigned World Environment Situation Room platform in 2022. This module features daily updated graphs of the extent of sea ice in the Arctic and Antarctic, global temperature anomalies, and other climate data. By visualizing trends like declining sea ice in near real-time, UNEP raises awareness among policymakers and the public about the dramatic changes at the poles.

B) The Six-Sector Solution and Systemic Mitigation:

UNEP produces reports and assessments that support global strategy. The disparity between nations' emissions paths and the reductions required to fulfill the Paris Agreement targets is assessed in its yearly Emissions Gap Report. Recent data is alarming: even if national commitments are fulfilled, global warming is expected to reach approximately 2. 7 degrees Celsius this century, well above the safer 1. 5 degrees Celsius threshold. According to scientists in UNEP papers, this might have disastrous effects on polar regions. Experts caution that "the only way to stop this trend is to reduce the emissions of greenhouse gases" as the loss of Arctic sea ice accelerates. Targeting the latest polluting sectors – energy, industry, agriculture/food/forests/land-use, transportation, and buildings — UNEP has proposed a "Six-Sector Solution" framework that, when combined, may provide the majority of the necessary emission reductions. Furthermore, this strategy tackles the underlying causes of climate change by encouraging systematic reforms in the sectors, such as low-carbon transportation, sustainable land management, and renewable energy. These initiatives are essential for polar ecosystems as reducing global warming is the key to reducing sea level rise, glacial melt, and other effects in the Arctic and Antarctic. [4] [5]

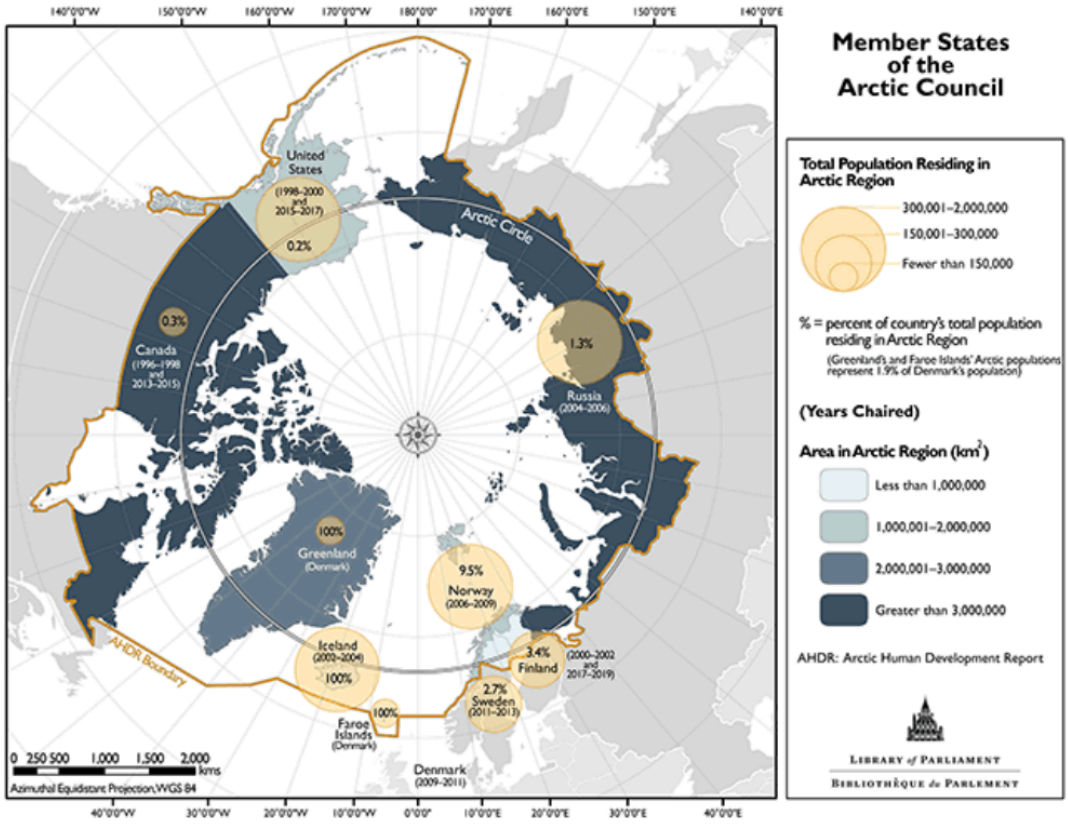
C) Regional Partnerships for Arctic and Antarctic Protection:

At the regional level, UNEP works with programs such as the Arctic Council to promote sustainable development and climate resilience in the far north. For example, the Arctic Council's 2015-2025 Arctic maritime Strategic Plan calls for strengthening the resilience of Arctic communities and outlines efforts to safeguard Arctic maritime ecosystems. UNEP provides expertise and encourages Arctic governments to carry out this strategy through platforms like PAME, with emphasis on objectives including understanding, protecting biodiversity, and assisting indigenous peoples in adapting to change. The Convention of Antarctic Marine Living Resources (CCAMLR), which aims to protect Southern Ocean ecosystems, is one of the treaties that UNEP supports in Antarctica. These initiatives all demonstrate UNEP's multifaceted strategy: Forging a global strategy that reduces climate change and safeguards polar ecosystems by integrating science, policy recommendations, and international collaboration. [6]

Case Studies

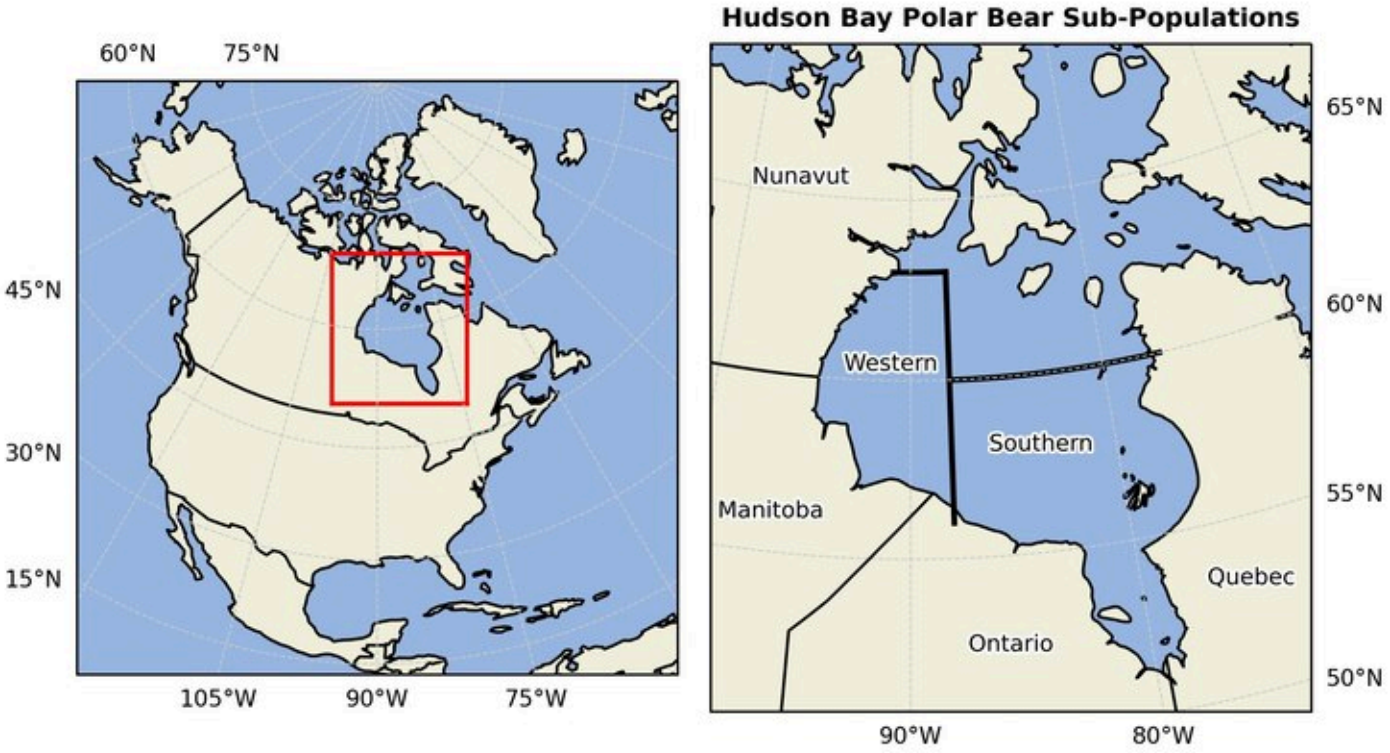
A) Arctic Reflections - Technological Intervention in the Arctic:

In April 2024, Arctic Reflections, a Dutch startup, conducted a field test near Svalbard, Norway, to evaluate the effectiveness of their ice-thickening method. This technique involves pumping seawater into existing sea ice during winter, where it freezes and increases the ice's thickness. The goal is to enhance the Arctic's albedo effect, reflecting more sunlight and slowing regional warming. The test, conducted in collaboration with Delft University and the University Centre in Svalbard (UNIS), aims to scale this method to thicken 100,000 km^2 of ice annually, potentially offsetting the warming equivalent of 100 million tons of CO2 each year. This case study illustrates a proactive geoengineering approach to climate mitigation, shedding light on the importance of the role of innovative technologies alongside traditional emission reduction strategies.



B) <u>Hudson Bay Polar Bears - Biodiversity loss in the Arctic:</u>

The polar bear population in Canada's Western Hudson Bay has experienced a significant decline, dropping by 27% from 842 individuals in 2016 to 618 in 2021. This decline is attributed to the loss of sea ice, which is crucial for polar bears to hunt seals, their primary food source. The reduction in sea ice forces bears to spend more time on land, leading to prolonged fasting periods and decreased reproductive rates. Melting sea ice reduces their hunting grounds, leading to prolonged fasting and decreased reproduction rates. Scientists warn that without substantial reductions in greenhouse gas emissions, this population could disappear by the end of the century. Hence, climate change has a direct impact on Arctic biodiversity and highlights the urgency of global emission reductions. The ecological shift in the Arctic is affecting Indigenous communities, particularly the Inuit, who rely on the stability of ecosystems for their livelihoods, food security, and cultural traditions. Changes in sea ice patterns threaten the balance between human and animal life, and their rich ecological knowledge is crucial for sustainable adaptation. Inclusion of these communities in policy-making is essential for developing effective climate strategies in the Arctic.



C) <u>Polar Ocean Mitigation Potential (POMP) Project:</u>

The Polar Ocean Mitigation Potential (POMP) project is a collaborative research initiative involving 16 partners across Europe and North America, funded by the European Union. It aims to enhance understanding of how climate change affects polar biodiversity and the ocean's capacity to sequester carbon. By focusing on the mitigation potential of the blue carbon in emerging coastal and oceanic habitats, the project seeks to inform conservation and climate policies. This exemplifies the role of international scientific collaboration in developing evidence-based strategies for climate mitigation, encouraging the integration of scientific research into policy-making processes

Conclusion

The polar regions are experiencing some of the most severe and accelerated impacts of climate change, with consequences that extend far beyond their geographical boundaries. Rising temperatures, melting ice sheets, and permafrost thaw are not only transforming fragile ecosystems but also contributing to global sea-level rise and altering climate systems worldwide. These changes have led to

biodiversity loss, disrupted food chains, and increased vulnerability for Indigenous populations whose lives are closely tied to the polar environment.

Over the years, UNEP has emphasized the urgency of addressing polar climate issues through science-based policymaking, international agreements, and targeted initiatives. Efforts such as the Paris Agreement, the UN Decade of Ocean Science, and UNEP's own Polar Regions Initiative highlight the importance of emission reduction, sustainable practices, and environmental governance. Technological interventions, such as Arctic ice-thickening, and research collaborations like the POMP project illustrate innovative approaches to mitigation. Meanwhile, tools like real-time climate data platforms help inform policy and monitor ongoing change.

The protection of polar ecosystems is closely linked to broader goals of sustainability, climate resilience, and environmental human rights. These regions serve as critical indicators of global climate health, making their preservation essential for long-term environmental stability and human well-being.

Questions to consider

- What concrete actions can UNEP take to reduce climate change impacts in polar ecosystems?
- How can existing international environmental agreements related to the Arctic and Antarctic be enforced or improved?
- How should UNEP collaborate with other organizations such as the Arctic Council or Antarctic Treaty System?
- What measures can be taken to regulate economic activities such as fossil fuel extraction, shipping, and tourism in polar regions?
- What funding mechanisms can be proposed to support polar research and climate adaptation projects?
- How can Indigenous and local communities be involved in planning and implementing mitigation strategies?

Recommendations

Delegates should consider frameworks that encourage international cooperation, promote equitable access to resources and technology, and reinforce existing environmental agreements. Proposals may draw

upon a wide range of tools. From nature-based solutions and climate finance mechanisms to sustainable infrastructure and indigenous-led conservation practices. Furthermore, it is important that resolutions take into account the diverse capabilities and responsibilities of countries, ensuring that strategies are adaptable and can be realistically implemented across different regions.

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