

February 2024 Newsletter

SEASONAL THEME: GLACIAL MELTS



NEW YEAR, NEW US!

With 2024 starting, we have decided to change the HNP Ontario newsletters! We aim to incorporate different styles of writing, bring light to captivating stories about the environment from all around the world, and introduce a new section, Nature News Reels! Watch out for upcoming discussions of major environment-related news that is both relevant and tremendously important!

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GLACIAL MELTS - WHAT ARE THEY?

AN INTRODUCTION

With climate change proceeding at an alarming rate and global temperatures on the rise, glaciers are melting at increasing speeds. While the public may have some awareness of melting glaciers, many are still left uneducated about the significance of glaciers and how their continuing depletion heightens the risks of climate change. This article will inspect what the importance of ice glaciers, how they help regulate global temperature, and the rate at which they're melting.



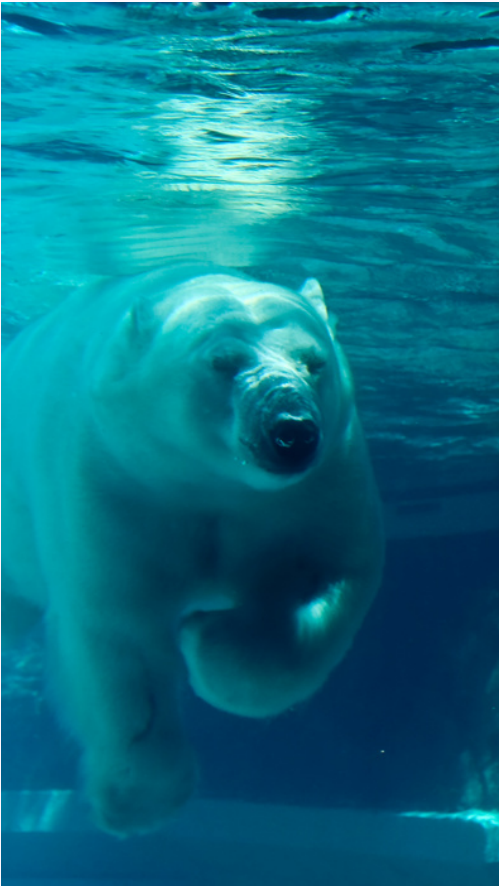
WHAT IS A GLACIER AND WHY ARE THEY IMPORTANT?

Glaciers are ginormous blocks of moving ice that are formed as snow accumulates in cold areas and it compacts and recrystallizes (Iberdrola, 2024). Depending on how much ice is retained, it takes up to one millennium (one thousand years), to form a glacier (Iberdrola, 2024). Globally, glaciers range in age, some being several hundred to several thousand years old (Hancock, 2024). Ice acts as a protective layer around the Earth, as the cool, white surfaces on Earth help reflect heat back into the atmosphere. Glaciers also help provide scientists records on how climate has changed over time, especially through records of ocean currents. As glaciers are exponentially melting in Antarctica and Greenland, cold water enters through warm ocean water systems, which slows down ocean currents (Hancock, 2024). Glaciers melting also contribute to rising sea levels, due to the excessive amounts of cold water, mixed in with the warm water (Hancock, 2024).

THE SIGNIFICANCE OF GLACIERS MELTING:

Today, approximately 10% of the Earth's land is covered with glacial ice, 90% located in Antarctica, with the other 10% located in the Greenland ice cape (Hancock, 2024). However, the loss of ice has amounted to 335 billion tonnes per year, equating to 30% of the current ocean growth rate (Iberdrola, 2024). Due to glacial melting, there are four major problems that arise from the problem: rising sea levels, impact on the climate, disappearance of species and less fresh water (Iberdrola, 2024). Iberdrola, a global leader in renewable energy, states that glacial melting has contributed to rising sea levels by 2.7 centimetres since 1961. The global climate will be affected due to the mixing of warm and cold water, slowing down the ocean currents and the natural process of weather events. Several species, such as the polar bear will continue to deplete in numbers, as glaciers provide habitats for both land and aquatic animals. The depletion of glaciers will also lead to less fresh water available for the population and irrigation, as well as lower hydroelectric generation capacity (Iberdrola, 2024).

GLACIAL MELTS & POLAR BEARS



On the ever-diminishing Arctic glaciers, polar bears are facing a chilling reality check. These iconic symbols of the North are finding their frozen habitats melting away faster than ever before! Picture this: majestic polar bears, known for ruling the icy seas of the Arctic, are now forced to embark on marathon-length swims—which have been causing polar bears to drown for the first time in observed history—across vast stretches of open water (Center for Science Education, 2024). Their once solid hunting grounds reduced to unstable ice fragments. It's a race against time for them.

But the challenges don't stop there. With ice retreating, polar bears are finding themselves stranded on unfamiliar shores, far from their traditional habitats, making hunting exceptionally more challenging (Center for Science Education, 2024). The consequences are dire: with a plummet in their food supply due to their unfamiliarity with the new environments, polar bears are starving. This leads to them either not being able to nurse their young, or frequenting the local dump, in the case of the polar bears which migrated to Churchill Manitoba. Aside from the problems with pathogens, it has been found that they are consuming micro plastic, potentially causing many health problems in both the adults and the cubs, endangering the species (Brown, 2022).



With polar bears now being listed as threatened by the US Endangered Species Act (Gardiner, 2008), it's clear that we must take action, and fast. Without decisive measure to curb climate change we could see polar bear populations plummeting by a staggering 30% within a few short decades (Center for Science Education, 2024). It's a wakeup call for all of us; a stark reminder of the toll our actions are taking on the ecosystems of our planet. By coming together and taking meaningful steps to reduce our carbon footprint, we can still turn the tide and ensure a brighter future for these magnificent creatures of the North. The time to act is now – before it's too late.

HNP ONTARIO 2024 LIBERAL ARTS COMPETITION



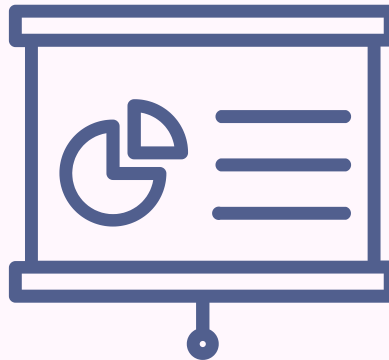
SUSTAINABLE SOLUTIONS

HNP Ontario is bringing back the Liberal Arts Competition for 2024, with this year's theme being "sustainable solutions"!

SUBMISSION MEDIUMS

Participants are encouraged to produce a piece under the following categories:

- Artistic Submission
- Report/Essay/Article
- Video/Presentation



PRIZES

Winners are eligible from prizes from our sponsors, including:

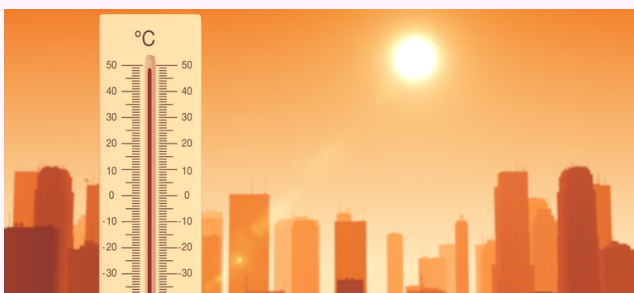
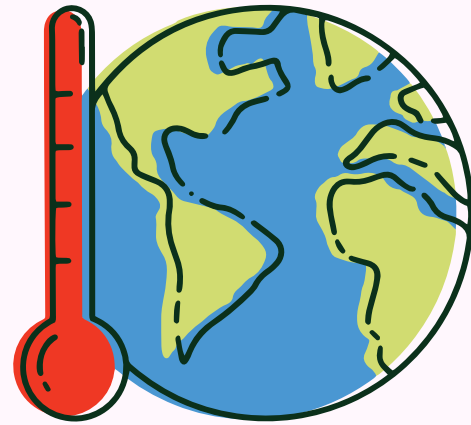
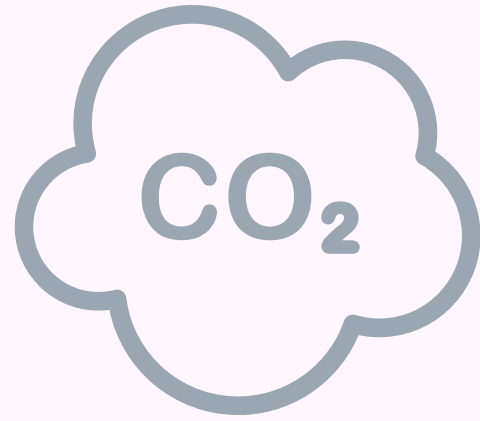
- \$100 gift card/sewing supplies from **Riverside Fabrics**
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NATURE NEWS REEL

2023 GLOBAL WARMING HIGHS

Earth experienced its warmest average surface temperature on record in 2023, with a 1.2 degrees Celsius increase over NASA's baseline period (a period used as reference when monitoring climate change), of 1951-1980. July marked the Earth's hottest month ever recorded. Earth was about 1.4°C warmer than the average temperature of the late 19th-century (Kirk, 2023). Gavin Schmidt, the Goddard Institute for Space Studies (GISS) director, highlights the unprecedented warming caused by fossil fuel emissions, leading to heatwaves, intense rainfall, and coastal flooding. While long term warming is attributed to human activities, El Niño (a climate phenomenon characterized by warmer than average sea surface temperatures in the Pacific Ocean), aerosols, and volcanic eruptions are factors that should be considered for short term warming (Kirk, 2023).

In 2023, El Niño-Southern Oscillation (ENSO) played a key role in Earth's climate. ENSO is characterized by the warming and cooling of sea surface temperatures in the central and eastern Pacific Ocean. The two phases involved in ENSO are El Niño (warming) and La Niña (cooling). The Pacific Ocean transitioned from three consecutive La Niña events (cooling) to El Niño (warming) in May 2023, known for coinciding with record-high temperatures (Kirk, 2023). Despite the El Niño's peak expected in February-April, the record temperatures in late 2023 occurred earlier. Scientists also considered the impact of the Hunga Tonga-Hunga Ha'apai volcano eruption in January 2022, which caused a slight cooling in the Southern Hemisphere. However, Gavin Schmidt, emphasizes that despite the cooling factor, continuous greenhouse gas emissions produce way warmer temperatures. Greenhouse gas emissions hit a new record in 2023, emphasizing the urgency of addressing climate change (Kirk, 2023).



NATURE NEWS REEL

2023 GLOBAL WARMING HIGHS

Aerosols have also been studied extensively over the past decade, for both their cooling and warming effects (Aerosols: are SO₂ emissions reductions contributing to global warming, 2023). Natural aerosols, such as those from volcanic eruptions, can emit sulfur dioxide gas into the stratosphere. Due to the sulfates' light colouring, sunlight tends to reflect off the particles promoting the cooling phenomenon seen in the Hunga Tonga-Hunga Ha'apai eruption. However, soot, a particulate matter that is dark in colour and often a result of burning fossil fuels, have a tendency to absorb sunlight directly resulting in warmer atmospheres. Sources of soot are much more common in daily life, among which are wildfires, industrial fuel, combustion engines, etc. Although short-lived, soot and sulfates have demonstrated a negative impact on human health due to their persistent production. Air pollution as a result of aerosols have resulted in up to 8 million deaths annually. Any short-term cooling effects of aerosols are simultaneously negated by similar atmospheric warming phenomena, as well as subsequent health impacts years later (Aerosols: are SO₂ emissions reductions contributing to global warming, 2023).



NASA and other climate related organizations seek to publicize valuable meteorological data, enabling access for anyone from key decision makers to ordinary citizens (NASA Goddard Space Flight Center, 2024). Analysis of air temperatures as well as those of sea surface temperatures point to the same conclusions: global surface temperatures measured in 2023 are at a record high (NASA Goddard Space Flight Center, 2024). And while short-term warming effects of natural and manmade sources need immediate attention, drastic legislative changes need to be made to ensure the long term well-being of the planet and the people living on it. By making climate data readily accessible to the public, NASA hopes to promote informed lifestyle choices (NASA Goddard Space Flight Center, 2024).

Executive of the Month

POURIA AMERYOUN



1. What do you enjoy most about being on the HNP team?

My favourite part of the HNP team is the ability to collaborate with like minded individuals that are also passionate about the work they do. After all, our team work is the major factor of HNP's success.

2. Tell us more about the recent task you've been working on.

Recently events have been working on the liberal arts competition. My role as a director has been to work alongside my team members and help lead our team towards completing preparations for the event such as finding sponsors, creating registration forms and making post request forms.

Executive of the Month

Congrats!

3. Tell us more about the significant role you play in being a part of the executive team.

I think that leading the events team alongside Danya and Faith has been a significant role to me and having great team members has allowed for this to happen.

4. What is something you learned while being a part of the HNP team?

One thing I observed as an executive member is all the hard work and dedication each team puts towards running one event. I learned that good communication makes all of this possible.

5. What is your most memorable experience with HNP?

My favourite memory whilst being at HNP is definitely our tree planting event in October. I got to meet all the other executives for the first time and also got to learn how to plant a tree.

6. How does it feel to be a member of the HNP team?

Being at HNP has been great so far. It is amazingly satisfying to see all the hard work and planning we put into events pay off and it is great to be working alongside our wonderful members.

SOCIAL Media



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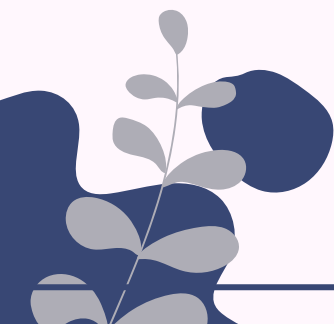
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