

Oct 2024 Newsletter

SEASONAL THEME: DROUGHTS



Welcome to the October edition of HNP Ontario's revamped newsletter, where the stories are compelling as ever!

Feature Articles: Droughts

NATURE NEWS REEL: Microplastic In Corals

Spotlights: Community Clean up Event!

Stay informed, engaged and empowered--together, let's make a difference!

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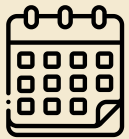
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COMMUNITY CLEAN-UP



Join us for a fulfilling experience in cleaning Teramoto Park!



Date: Sunday, October 27th, 2024



Time: 10:00am - 2:00pm



Location: Teramoto Park, 9056 Chinguacousy Rd, Brampton, ON L6X0E6

Itinerary

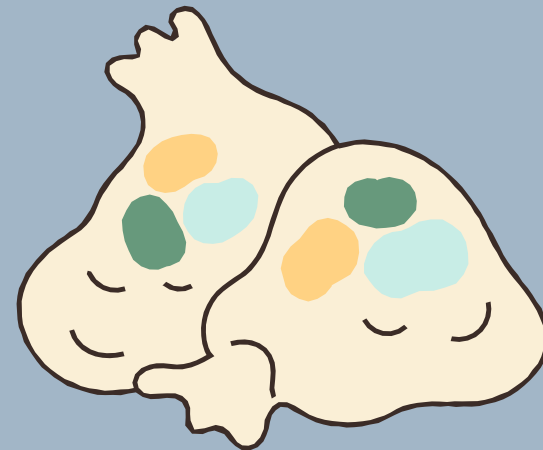
10:00am - 10:30am
Check-In

10:30am - 11:00am
Opening Remarks

11:00am - 1:00pm
Garbage Collection

1:00pm - 1:30pm
Lunch Break

1:30pm - 2:00pm
Closing Remarks



Earn 6 Volunteer hours !!

Scan the QR code or click [this link](#) to sign up!



DROUGHTS

Human Nature Projects
Ontario

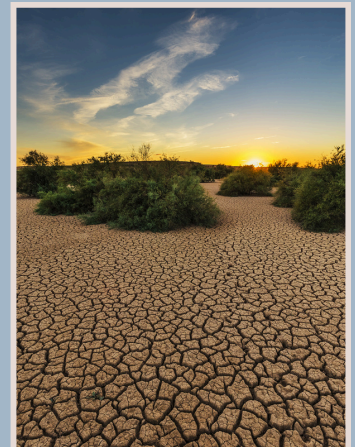
What Are Droughts?

Droughts are a natural disaster stemming from a lack of precipitation over a long period of time. This directly results in “water scarcity, parched soil, and crop harm” (National Geographic Society, 2024). No life can naturally survive without water for a prolonged period of time, and, thus, must depend on preexisting bodies of water, such as rivers or lakes. However, in times of drought, the water sources used for irrigation may disappear as well. Thus, a lack of water means animals, and plants lose their main source of survival (National Geographic Society, 2024). This can cause significant health impacts, such as increased chances of illnesses, mental health challenges, and mortality rates (National Integrated Drought Information System, n.d.).



What Causes Droughts?

As mentioned, droughts are caused by shortages in water due to lack of precipitation. This shortage may be caused by weather patterns, but is impacted heavily by human activity. Most prominently, the human-caused phenomena of global warming leads to higher occurrences of droughts. This happens because higher global temperatures lead to increased evaporation, and thus, less liquid water. Other human-activities, such as highly intensive agriculture or deforestation, may also lead to droughts (International Rescue Committee, 2023).



Fellowship 2024 RECAP

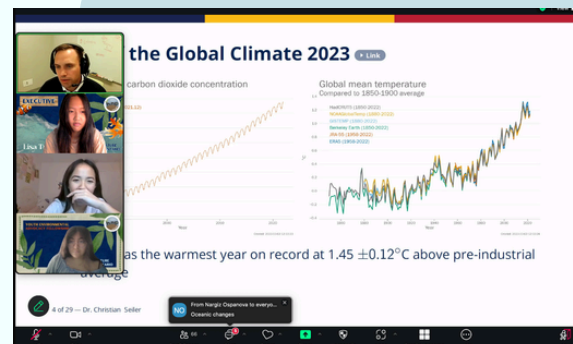
167 Applicants

71 Participants

10 Guest Speakers

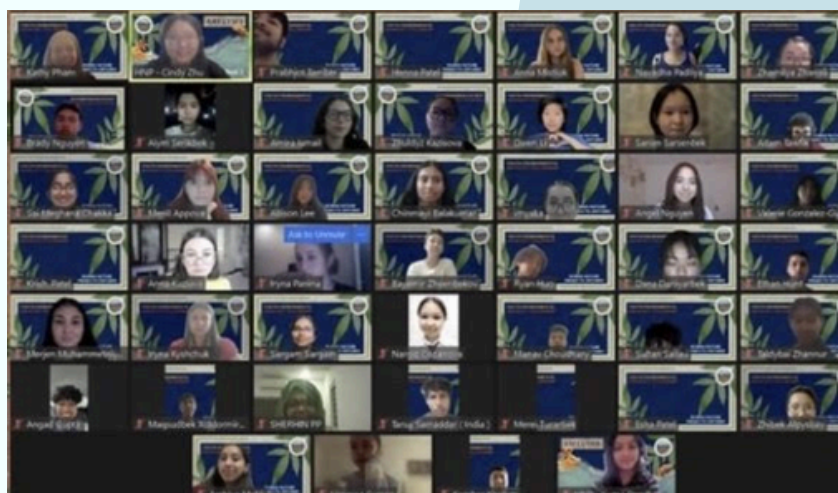
About The Fellowship

Between July 29 and August 2, HNP ran the 2024 Fellowship. This fellowship was a one week-long internship experience, available to those between the ages of 14-22. The fellowship took place over online Zoom meetings, and participants received 50 volunteer hours through the course of the week. This year's fellowship was based on the topic of climate change. Participants got the chance to listen to professionals in the field, who created workshops based on the various components of climate change. The workshops presented were on the topics of water and plastic pollution, fossil fuels and their impact on global warming, connections between greenhouse gas emissions and transportation, fast fashion, biodiversity loss, and unsuitable farming practices. Volunteers got the opportunity to work with like-minded peers, professors, and non-profit leaders. After the week was up, participants teamed up and wrote reports based on climate change, with each receiving a well-deserved certificate of completion.



Thank You To Our Guest Speakers:

- *Dr. Kariuki Kirigia*
- *Dr. Victoria Petryshyn*
- *Dr. Maria Strack*
- *Varun Shirhatti*
- *Mr. Jamal Russell Black*
- *Dr. Cindy J. Lin*
- *Dr. Brad Brass*
- *Dr. Christian Seiler*
- *Cigdem Asatekin Macinnis*
- *Christiane Tarantino*
- *Dr. Sarah Burch*



Testimonials

Vanessa Curran:

"The choice of panelists was phenomenal. Well-educated and admirable people were involved in the fellowship and were able to cover such a wide array of topics in such depth that I really felt like I was learning a million new things every day. Just from a short time, the conversations I am having with my family and peers regarding environmental issues is so much richer."

Angel Nguyen:

"My favorite part about this fellowship is being in the breakout rooms, giving me the time and experience to engage with new people. It was an excellent opportunity to gain new perspectives and find other people passionate about the same ideas."

**RECEIVED AN
HONORARIUM FROM
THE 2024 CANADIAN
YOUTH CLIMATE
ACTION AWARD**





MICROPLASTICS FOUND IN CORALS

New research has revealed that coral reefs are acting as significant sinks for microplastics, highlighting the urgent need to address the detrimental effects of plastic pollution on marine ecosystems.

01 THE PLASTIC PROBLEM

Every year, up to 12.7 million tons of plastic enter our oceans from various sources, including wastewater, road runoff, winds, and waterways (Gajbhiye, 2024). This **plastic never completely disappears**; instead, it degrades into **microplastics**—tiny particles measuring 5 mm or smaller—and can further break down into even smaller nanoplastics, less than 0.1 mm (Bednarz et al., 2021).

02 CORAL REEFS UNDER THREAT

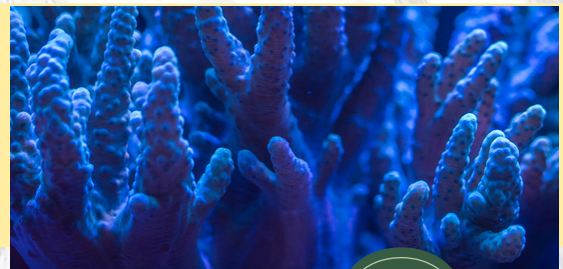
Coral reefs, comprised of thousands of sac-like polyps grouped into colonies, face **immense threats from plastic pollution**. Our dependency on plastics, while convenient, has dire consequences that we are only beginning to understand.

03 A NEW LIVING "SINK"

Recent research has quantified the **first-ever living microplastic "sink"** in coral reefs (much like how trees or oceans act as carbon sinks). Corals mistake microplastics for zooplankton and ingest them, **incorporating these particles into their skeletons**, with most debris found in the skeletons (37%), followed by surface mucus (38%) and tissue (25%) (Dzombak, 2021)..

04 WHAT PLASTICS?

The most prevalent types of microplastics in corals include **nylon** (20.11%), **polyacetylene** (14.37%), and **polyethylene terephthalate (PET)** (9.77%) (Gajbhiye, 2024).



JOIN THE FIGHT AGAINST PLASTIC POLLUTION





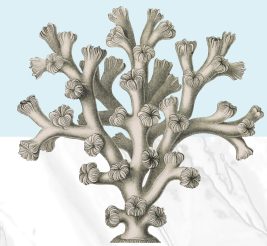
MICROPLASTICS FOUND IN CORALS

ALARMING IMPACTS ON CORAL

05



The impacts of microplastics on coral reefs are alarming, leading to **increased energy expenditure** for cleaning, false feelings of fullness that **impair food intake**, and potential **gut blockages**. Additionally, **toxic chemicals** associated with plastics pose significant threats to biodiversity.



CORAL REEFS ARE ESSENTIAL ECOSYSTEMS

Coral reefs are crucial ecosystems in tropical waters, housing over a quarter of all marine species and providing **vital shelter and sustenance** for numerous fish. This decline threatens human populations that rely on seafood for their livelihoods—**over 850 million people depend on coral reefs for survival and tourist** (Bednarz et al., 2021).

06

FUTURE RESEARCH

Looking ahead, researchers are investigating the consequences of microplastics on reef stability and integrity. There's a growing interest in coral reefs as a "marine plastic sink," especially with the disappearance of 70% of marine plastic waste (Dzombak, 2021).

07

CALL TO ACTION

The ongoing research, led by scientists from Japan and Thailand, emphasizes the **need for expanded global studies** on various coral species (Dzombak, 2021).. Urgent action is required to **reduce plastic production, improve waste management systems, and invest in biodegradable materials and recycling programs** to protect marine ecosystems.



JOIN THE FIGHT AGAINST PLASTIC POLLUTION



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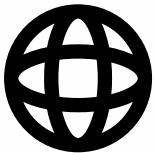
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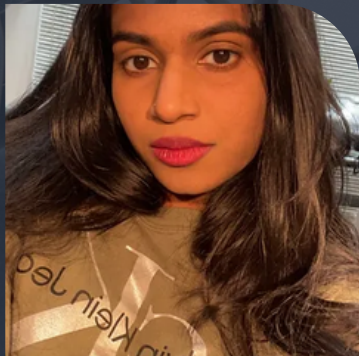


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