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Environmental club organizes Earth Day cleanup at Gillson

Recent club projects also include clothing drive and recycling awareness campaign

by Lily Vance

Earth Day only lasts 24 hours, but Environmental Club orchestrates environmental action year round.

Last Friday, April 19, the club organized a beach cleanup at Gillson Beach and last Monday, Apr. 22 conducted a clothing drive.

Senior and club member Eve Wall who attended the beach cleanup said, "It went really well, we just walked down Gillson picking up pieces of trash and plastic along the beach and most people were pretty much filling up their buckets."

Despite the frigid weather that day, Pallavi Simhambhatla, another senior club member, noted that it didn't deter their efforts.

"It was really windy and cold, but about 10-15 of us went for an hour and a half to pick up trash. We found a lot of straws, juice packets, random bits of paper and plastic, a lot of cigarette butts, and other random stuff. We filled about two compostable garbage bags with the trash that we gathered," she said.

Junior Josh Glucksman helmed the club's April 22 clothing drive, where students could donate clothing that will be sorted by the club throughout the week.

"My sub-committee, The Advocates for the Recycling of Clothing, partnered with the Winnetka Thrift Shop to make this drive happen," said Glucksman.

Glucksman will bring the clothes to the Winnetka Thrift Shop, where the proceeds will go to support mental health through the Counseling Center of the North Shore or be distributed throughout the Chicagoland area to people who need them.

Simhambhatla said, "The average American throws away 80 lbs of clothing into the landfills, adding up to over 26 billion pounds of clothing just in the United States. All of the clothes we've collected are going to Winnetka thrift store, and you can bring clothing in any condition and just dump it in the bins around the school," she said.

These past few months, climate action has become one of the primary issues that youth activists around world have galvanized around. Environmental club's work of late has sought to galvanize the efforts of as many students as possible to participate in this wave of environmental activism. Earlier this year, the club led many NT students in participating in the Mar. 15 Chicago youth Climate Strike.

The protests, led by youth leaders from throughout the area, have sought to push the government to implement policies that will combat climate change, including ending fossil fuel infrastructure projects and passing the Green New Deal.

Junior Julia Braham is not a part of the club but participated in the Mar. 15th strike with the club.

Emphasizing the importance of high school students' involvement in climate action, she said, "It is our futures that are at risk because of climate change."

Notably, junior club member



Club member Pallavi Simhambhatla picks up trash by the shore | Schumaker

Aidan Lane gave a speech regarding climate action to a crowd of about 500 people at the March 15 climate strike.

A follow-up Youth Climate Strike will also be taking place on May 3.

Beyond their larger projects, the group also makes considerable efforts to acknowledge their own individual responsibility in contributing to climate problems.

Junior Maya Crystal, a second year member of the environmental club celebrated Earth day by making

small changes to her everyday routine.

"I have switched my family to consistently using reusable grocery bags, and I've gotten reusable snack bags for my lunch and after school snacks," said Crystal.

Although Lane and the members of Environmental Club have done a lot within our community, Lane believes we are nowhere near finished with combatting climate change.

"Students in our own school don't even know what can and can't be recycled, so all of our recycling

bins get contaminated and PPS just has to dump the recycling into the trash," said Lane.

Lane said that environmental club is currently working on a recycling education campaign so students will recycle consistently in the following years.

Senior and environmental club president Stella Cook acknowledged that while it's true that the largest contributors to climate change, negligent corporations and passive, grid locked governments, are a far cry from the local beach cleanup and protest activities that are more within the realm of environmental club's reach, we must still do all we can in our own lives.

"It often seems like a battle we have already lost, but corporations listen to consumers and if we change consumer demands we have a chance at making them listen to us. Following the money is what usually leads corporations to become polluters anyway and if we demand sustainability hopefully corporations will change their behaviors," she said.

"This applies to making legislation that regulates these corporations as well. We need to vote, once we legally can, for representatives that actually represent our ideals and will fight for them. Since many of us in club can't vote we make our voices heard by striking and organizing projects to combat climate change."

Wall agreed that even though some of the club's actions might seem insignificant in the face of the insurmountable impact of climate change, "even though it's small, it's something that we can do."

Cosmic ray detector provides hands-on science experience

Sophomores collect muon data with QuarkNet detector

by Grant Feldman

Over the last month, students have been researching cosmic rays at the Academic Assistance Center at the Northfield campus, under guidance from retired physics teacher Nate Unterman.

According to a New Trier press release, Unterman spent two days in March allowing students to come to the AAC and collect data about muons using a QuarkNet cosmic ray detector, in honor of International Muon Week. A muon is a subatomic particle similar to the electron, but with a mass about 200 times greater. Muons make up much of the cosmic radiation that reaches Earth's surface.

"Our goal is to determine how far underground and through how much mass the muons can go," said sophomore Paul Graham, one of the students working on the project.

"We want to determine the effect of the access shaft on muon flux and possibly investigate how this would affect results in the neutrino beam area."

A neutrino is another particle similar to an electron, but it does not



Sophomores Paul Graham and Ellie Winkler participated in the experiment to collect data on cosmic rays | Unterman

have an electric charge.

Unterman invited all students who were interested to operate the detectors for a worldwide experiment to collect data about cosmic rays.

Cosmic rays are high-energy radiation that mostly originate outside the solar system. When a cosmic ray impacts the Earth's atmosphere, it can produce showers of secondary particles that sometimes reach the surface.

"The cosmic ray detector parts

come from a group that is funded by the government, but sadly the funding has run out, so the schools are the ones that have the parts. We can assemble the detectors pretty easily using some spare boxes for spacing and some cable management," said Graham.

Elaborating on the creation process of the cosmic ray detector, Unterman said "a scintillating plastic is enclosed with aluminum foil and opaque plastic, and a photomultiplier

tube is attached. The data signal goes to a data acquisition board and is coordinated with a GPS signal for timing. That information is then recorded in a computer. There is a set of scintillators that records secondary cosmic rays (muons).

"When primary cosmic rays (mostly relativistic protons) collide with gas atoms in the atmosphere, there is a shower of sub-atomic particles, some of which are muons. Since we have nanosecond timing

resolution, we are able to coordinate our results with other detectors."

Through the experiment, students are able to investigate the high-energy cosmic rays, learning what they are, where they come from, and how they hit the Earth. Students upload their findings to the virtual data portal where all the global data resides, resulting in a much larger body of data to analyze and to share analysis code.

"We are measuring the cosmic ray flux and characterizing the lack of burden due to the access shaft in the MINOS tunnel at FermiLab," said Unterman. MINOS is the Main Injector Neutrino Oscillation Search, which is an experiment designed to observe the phenomena of neutrino oscillations.

This year, students explored cosmic ray flux and speed of muons. While scientists understand the start points of cosmic rays with low to moderate energies, those with higher energies have unknown origins. The goal of the project is to discover where high-energy cosmic rays come from.

"We have very recently started, so we don't have any results," said Graham. "All we can say is that it's obvious the muon flux decreases by a large amount when in the tunnel."