



The

Environment

Magazine

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Message from Editor in Chief

My name is Henry Yao. I am Editor in Chief of the Environment Magazine.

Today is Earth Day of 2023, which makes the publication of the first issue of the Environment Magazine particularly meaningful.

The purpose of this magazine is to provide a platform for students of all backgrounds to express their views on current environmental issues to a broad audience. I believe that every student has the ability to make a positive difference in the world, and through this magazine, we aspire to unleash their potential. The project is open to everyone, and there are unlimited spots available for participation. We welcome all students who want to be a part of this effort.

To contribute articles to The Environment Magazine, please contact playfndn.environment@gmail.com. Volunteer hours will be recognized.

Henry Yao

Apr 22, 2023

How to Combat Ozone Layer Depletion

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It's a bright, sunny day, the warm embrace of sunlight illuminating our world from above. The sun ferociously shines, casting upon us the light our world bathes in. But what makes it possible for us to survive amidst all of the harmful radiation and ultraviolet light shining onto us all day long?

The ozone layer is a thin part of the Earth's stratosphere, the second layer of the atmosphere. It lies between 15 and 30 kilometers above Earth's surface and contains relatively high concentrations of Ozone, a highly reactive gas consisting of three oxygen molecules bonded together (O_3). Ozone can trap ultraviolet radiation found in sunlight, which could otherwise be harmful to both human life and the well-being of many ecosystems. Acting as the Earth's protective shield, the ozone layer not only can protect and block us from most of the harmful ultraviolet light, but also countless other organisms as well.

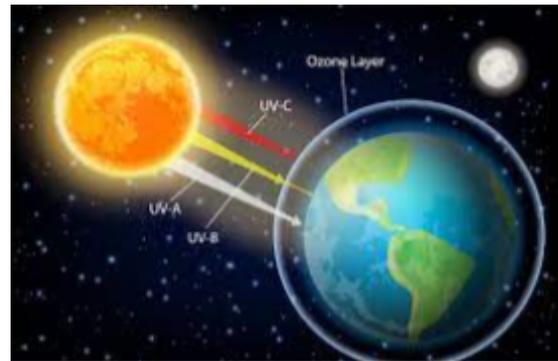


Figure 1: Ozone Layer's Protection
(source: discovermagazine.com)

Ozone molecules are constantly naturally destroyed and reformed as they absorb radiation, but chemicals such as chlorofluorocarbons, and many other chemicals harmful to the

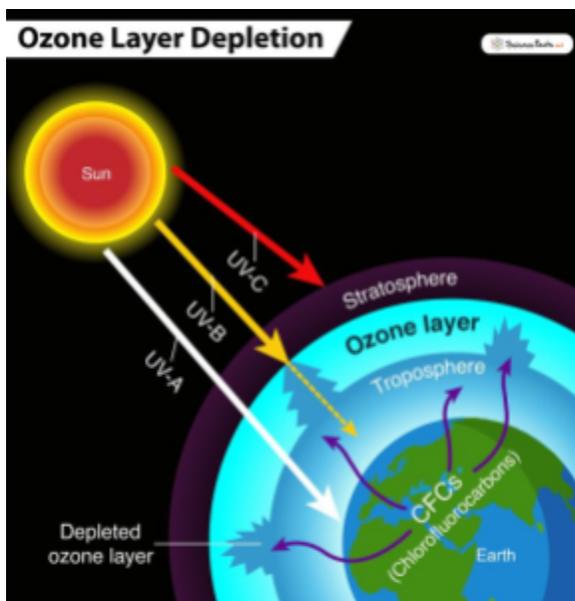


Figure 2: Ozone Layer Depletion
(source: sciencefacts.net)

production of ozone have caused the trend of the depletion of the ozone layer. These chemicals that soar up into the stratosphere disrupt the reforming process of ozone, and have dealt serious damage to our protective shield. With the depletion of the ozone layer, radiation can seep through the thinning ozone layer and has caused drastic effects on many ecosystems and lives including our own. Damage to the physiological and developmental processes of plants, reduced survival rates of phytoplankton, a primary producer of the aquatic food web, damage to the early developmental stages of many marine animals and their reproductive capacity, the acceleration of the degrading of many materials, and causes of skin cancer and cataracts, the clouding of the eye's lens, in humans, are all consequences of the neglecting of the health of

our ozone layer.

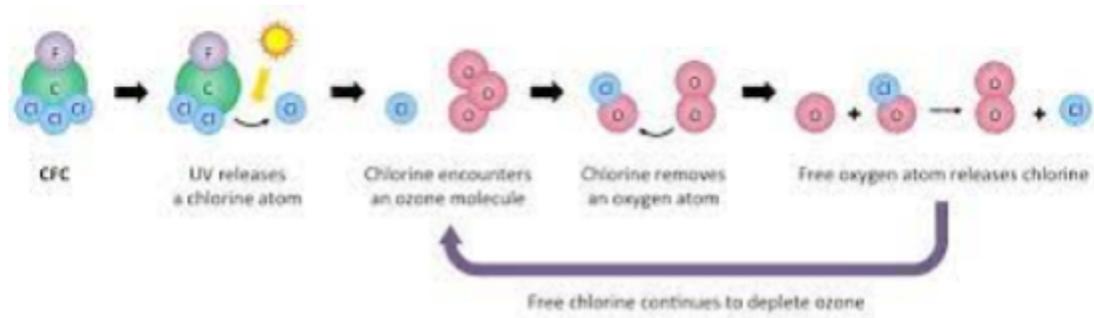


Figure 3: Chlorofluorocarbons effect on ozone (source: ib.bioninja.com.au)

But what can we do to help combat this issue? There are many ways for us to make a difference. We should try our best to avoid the use of gasses and chemicals dangerous to the ozone layer. Chemicals like chlorofluorocarbons, halogenated hydrocarbons, methyl bromide, and nitrous oxide all have their part in ozone depletion. Secondly, we should also try to limit our usage of gas cars. Gas

cars release chemicals harmful to the ozone layer, like nitrous oxide and hydrocarbons. Walking or biking close distances is a great alternative, and carpooling, driving electric cars, or transportation through buses or trains for longer distances is a great way to limit our negative impact while still keeping our old lifestyle much the same. Buying local products is another great way for us to fight this issue. Limiting the amount of distance products travel also limits the amount of harmful chemicals

released that that transportation yields. Cleaning products, cosmetics, and hair sprays also contain harmful chemicals. We should all try to avoid these cosmetics and instead replace them with non-toxic products such as vinegar or bicarbonate. Lastly, maintaining all of our air conditioners, freezers, and refrigerators helps a lot with avoiding malfunctions that cause the release of chlorofluorocarbons.



Figure 4: 5 Ways to Protect the Ozone Layer (source: theeducationmagazine.com)

Our ozone layer is slowly healing, but it is up to each and every one of us to try our best to stay on top of this issue and make sure to keep on educating others and spreading change in the long fight for our ozone layer to heal.

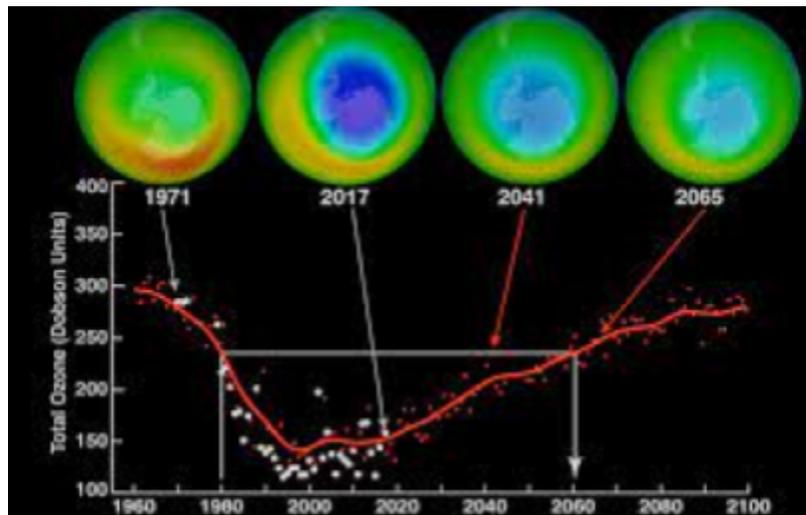


Figure 5: Projected Ozone Layer Healing (source: [planetaid.org](https://www.planetaid.org))

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Environmentalists in Action

In this issue, the Environmentalists in Action are Yichen Lei, Jovanny Shek, Sabrina Tsai, Henry Yao, Anson Yee, and Jiaen (Amanda) Zou. On April 2, 2023, they cleaned up the sidewalks and the surrounding areas on Bollinger Canyon Road between the Dougher Station Library and Dougherty Valley High School. Thank you, Environmentalists!









About

The Environment Magazine is published by the Environment Club. It collects introductory articles on environmental protection written by youth volunteers, with the goal of educating students and parents on how to protect the environment. It aims to provide a platform for all students to express their opinions and inspire change through activism. It also empowers students to become environmentalists and make a positive impact on the world.

The Environment Club is a group of passionate middle and high school students dedicated to environmental protection. We started by organizing youth volunteers to clean up the trails and streets in our local community, and now we're taking the next step by promoting awareness and change through our publication, The Environment Magazine. Our goal is to inspire others to take action and make a positive impact on the environment, both locally and globally. The Environment Club is a subdivision of the PLAY Foundation, a 501(c)(3) non-profit organization.