Houston Area Model United Nations

Standard Committee

UNEP

Chair | Annie George

Topic B Background Guide

Houston Area Model United Nations 48

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Note to Delegates

Delegates,

My name is Annie George, and I have the privilege of being your chair for the United Nations Environment Programme. I am currently a sophomore at the University of Houston. My major is Computer Information Systems, and my minor is in Business Administration. I am a part of a couple of programs, such as Women in Stem and the Council of Cultural Activities. I love volunteering, walking my dog, and reading!

I started Model UN during my first year of high school and was in a mix of Standardized Committees and Crises. I did UNHCR, DISEC, A Crisis, and Security Council; then, last year, I was a vice chair at UNOOSA. I joined Model UN because I love researching different topics and debating them. When I learned about Model UN, I was excited because I got to look at such a painful thing as international warfare and think of numerous solutions for the said problem, work with others, and come up with a final answer to the issue at hand. Problems such as the ones that we will be talking about in UNEP.

UNEP, if you didn't know, is a council of counties that sets the agenda for environmental problems that we face worldwide. Their goal is to care for the environment. They want to enable nations to improve their citizens' quality of life. I look at our environment a lot and think about how we could solve that issue, whether on a small scale, like in our neighborhoods, or a big scale, like in our state or the country. My hope for this conference is that you will do the same. You, as a delegate, have the task of looking at an issue from the point of view of your country and then taking that point of view and using it as a starting point for your argument in the debate as well as a solution in your final papers. So you and the other countries will have to work collectively to devise a final solution to our two topics.

During our committee sessions, you will go in with an open mind and think about all the different ways to solve the problem. Go out of the box, don't be scared to share your opinions on matters, and most importantly, have fun.

My final word to you all shall be that this year's conference will be unique, and I wish you the best of luck!

Annie George
Chair of UNEP
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Prevention Of Ozone Depletion

This year, Topic B is about the Prevention of Ozone Depletion. The ozone layer is a region of high ozone concentration in the Earth's stratosphere, and it protects the world from harmful ultraviolet radiation from the sun. Longer-term exposure to this radiation threatens human health, damages plants and microbes, and hurts animals. Since the 1980s, scientists have observed a thinning in the ozone layer, starting in Antarctica, and over time other continents have also experienced thinning. Therefore, we as a committee need to figure out a solution to protect the ozone layer no matter what resources we must pull.

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Topic Concept

The ozone layer (a region in the stratosphere with a high ozone concentration) is an invisible shield that protects us from the lethal ultraviolet radiation from the sun ("Ozone and You"). Ultraviolet radiation threatens human health, damage plants, microbes, and hurts animals.

That protection, though, is unfortunately slowly depleting. Mario Molina and Sherwood Rowland, in 1974, realized the ozone layer was exposed to significant accumulations of gasses such as chlorine and bromine("HISTORY OF THE OZONE LAYER") . Then in 1985, their work and research were validated when three scientists from the British Antarctic Survey discovered a "hole" in the ozone layer above Antarctica. They found with computer models that the ozone loss was recurring, and it happened in the springtime. After doing more research, this group of scientists also found more ozone holes in the Arctic and the southern/northern mid-latitudes.

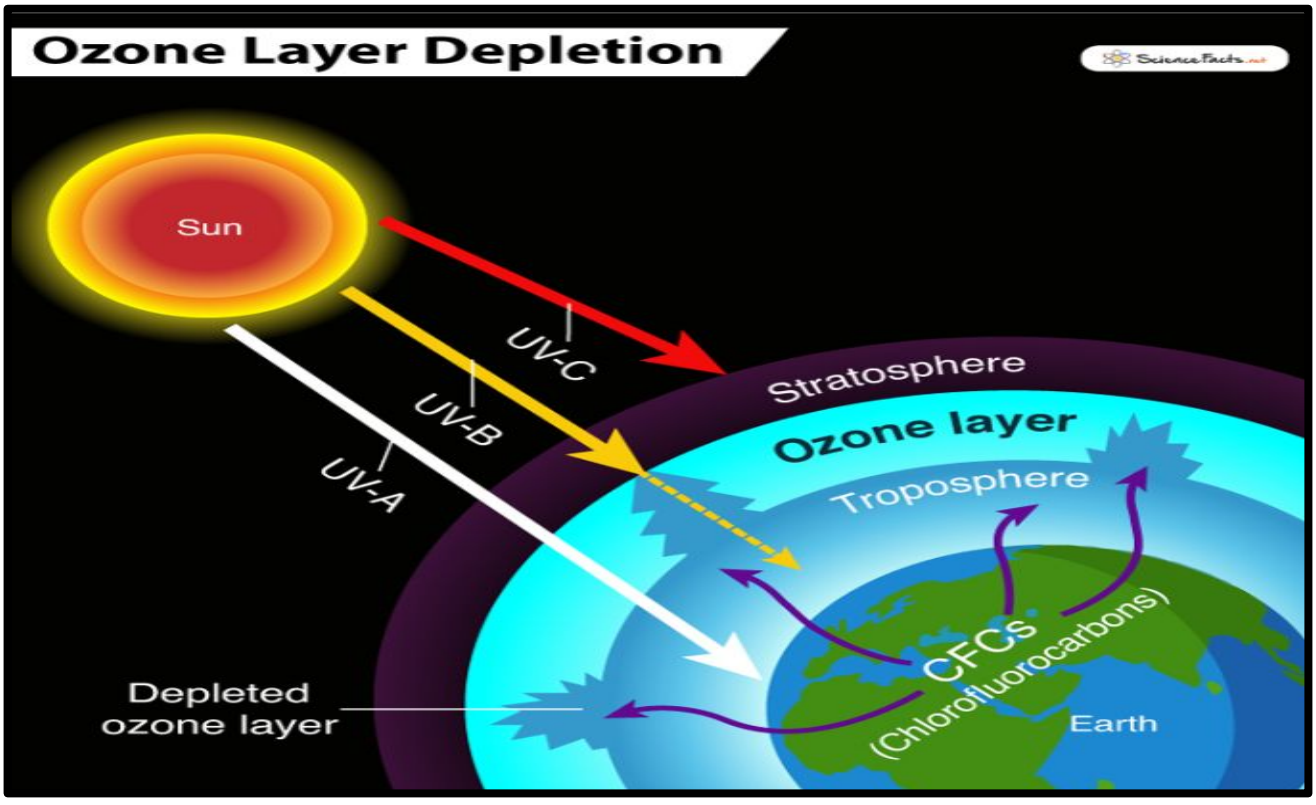
Now the question was what created these holes in the first place. They were able to identify the two problems.

The first problem was “Manufactured reasons.” Manufactured substances are responsible for almost 90% of the total depletion. Under the general umbrella, these substances are called ozone-depleting substances, but they are more commonly known as chlorofluorocarbons, halons, carbon tetrachloride, hydrochlorofluorocarbons, and methyl bromide. These substances, such as refrigerators, dry cleaning agents, and computers, come from our homes(“Center for Science Education.”).

When chlorofluorocarbons into the world, they destroy the troposphere and the ozone layer and make their way into the stratosphere.

Once the molecules of CFCs enter the stratosphere, they are broken down by ultraviolet radiations from the sun and release chlorine atoms which then react with the ozone and create a hole.

The second cause is natural. Sunspots and stratospheric winds are the two biggest natural causes of ozone depletion. They contribute to at least 2% of the total lack of the ozone layer, but this effect is temporary, so it does not have as significant an impact as with artificial substances and objects.
By 1987, the ozone depletion issue needed to be resolved, so leaders of different countries signed the Montreal Protocol on Substances That Deplete the Ozone Layer.



Source:https://www.sciencefacts.net/ozone-layer-depletion.html

This agreement with over 198 UN Member States regulates the production/consumption of nearly 100 manufactured chemicals referred to as ozone-depleting substances. All the parties that ratified this treaty had a responsibility to phase out the different groups of ODS(ozone-depleting substances), and it worked. Since the protocol has been implemented, it controls nearly 100 manufactured ODS, most greenhouse gasses. It has even led to the phased-out of 98.6% of ODS. Without the Montreal Protocol, the ozone hole around the Antarctic would have been about 40% larger by 2013, preventing approximately 2.3 million skin cancer deaths and 63 million cases of cataracts("About Montreal Protocol.").

Even though the Montreal Protocol allowed the ozone layer to heal, the ozone is depleting. This is because climate change affects the temperature and atmospheric circulation, which prevents the ozone layer from recovering. Therefore, as the United Nations Environment Program, we must figure out how to ensure that the ozone layer can heal.

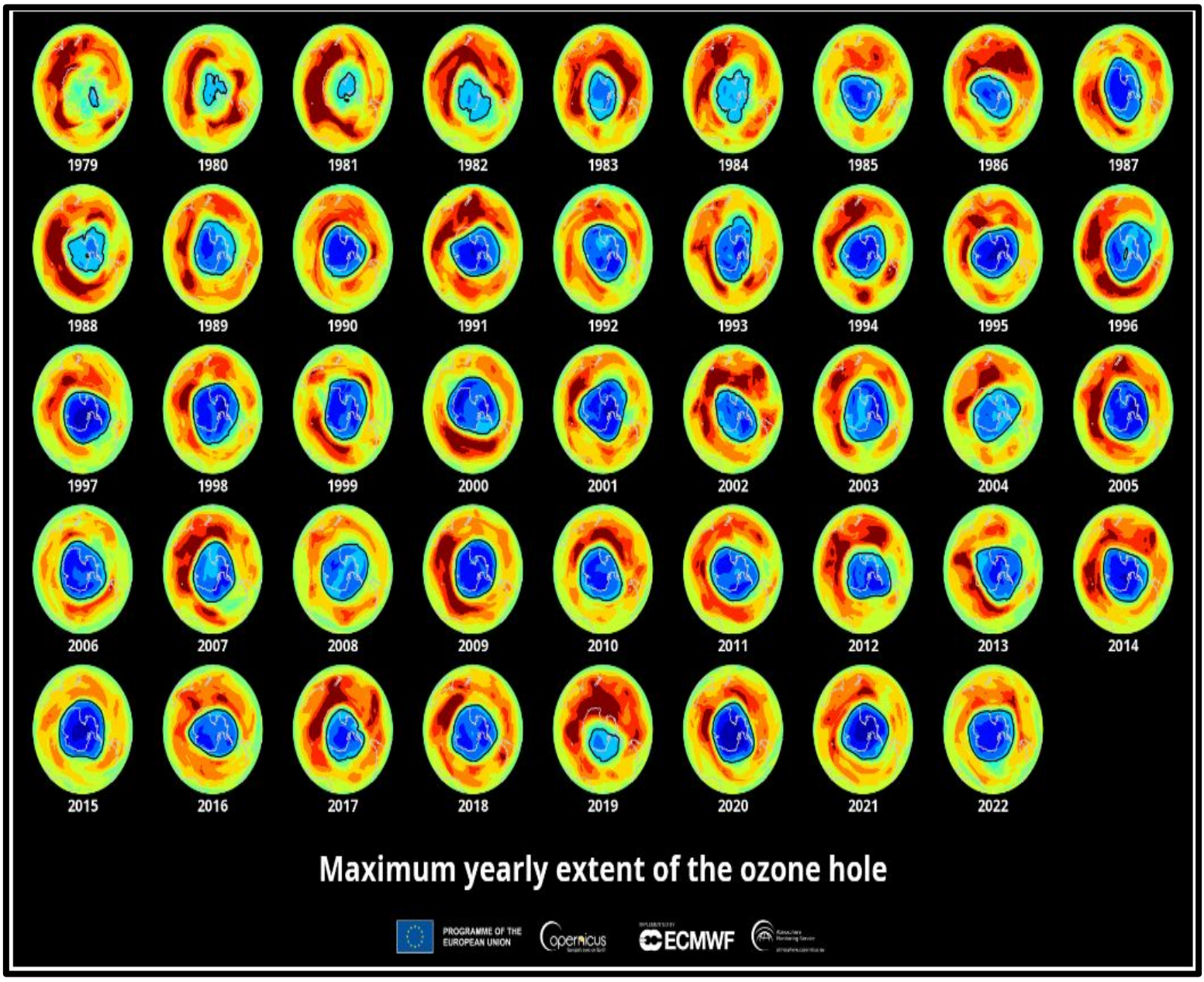
Topic History

The ozone hole is a region in the Earth's stratosphere where the ozone concentration, which protects the Earth's surface from harmful ultraviolet radiation, is significantly lower than average. Ozone is formed when UV radiation breaks down oxygen molecules into individual oxygen atoms, reacting with other oxygen molecules to form ozone.

The ozone hole was first discovered in 1985 by three scientists. It was found to be primarily caused by the release of certain artificial chemicals called chlorofluorocarbons (CFCs) and halons, which deplete the ozone layer. When CFCs and halons are released into the atmosphere, they are broken down by UV radiation, releasing chlorine and bromine atoms that can react with and destroy ozone molecules.

The ozone hole is most commonly associated with the region over Antarctica, but it can also occur over other parts of the Earth, including the Arctic. The size and depth of the ozone hole vary from year to year, but it typically reaches its maximum size in the springtime, when the temperature in the stratosphere is at its coldest.

To address this problem, the international community has taken many steps to reduce the use and release of CFCs and other ozone-depleting substances. The United Nations then created the Montreal Protocol. This international treaty was signed in 1987 to phase out the production and use of CFCs and other ozone-depleting substances. As a result of these efforts, the production and use of CFCs and other ozone-depleting substances have significantly reduced, and the ozone hole has begun to recover slowly.



Source: https://www.eea.europa.eu/themes/climate/ozone-depleting-substances-and-climate-change-1

Questions to Consider

This next page has several questions you should consider when formulating your responses to this topic. First, you don't have to answer every question in your paper. Instead, these questions are just made to kick off your thought process.

- What is the connection between ozone depletion and climate change?
- What can the UNEP do to ensure that the ozone layer does not deplete further ?
- How will we be able to identify what ozone depleting sources are hurting our environment?
- How will we make sure that the ozone depleting sources aren't being used anymore?
- What is currently being done about ozone depletion?

Chair's Notes:
These are my last few words to you. When it comes to the ozone hole, a solution was found, and it has helped heal the ozone hole in monumental ways. Unfortunately, though, the ozone hole is still there, a problem that we as a committee need to try and solve as we write this paper and find creative solutions to this problem.

Look at this problem from your country's perspective so that when it comes time for the conference, you will have all the information you need to create unique dialogues and creative solutions. Happy researching, delegates!

Works Cited

Mukherjee, Santanu. “Ozone Layer Depletion: Definition, Causes, Effects, & Solutions.” *Science Facts*, 12 Nov. 2021, https://www.sciencefacts.net/ozone-layer-depletion.html.

“NASA Ozone Watch: Latest Status of Ozone.” *NASA*, NASA, https://ozonewatch.gsfc.nasa.gov/#:~:text=Each%20year%20for%20the%20past,as%20the%20%E2%80%9Cozone%20hole%E2%80%9D.

“Ozone and You.” *Ozone and You | Ozone Secretariat*, https://ozone.unep.org/ozone-and-you#what-is-ozone.

“The Ozone Layer Is Healing - but It Could Take Another 50 Years to Completely Recover.” *Business Insider*, 16 Sept. 2020, https://www.businessinsider.in/science/environment/news/the-ozone-layer-is-healing-but-it-could-take-another-50-years-to-completely-recover/articleshow/78146667.cms.

Piper, Kelsey. “The Shrinking Ozone Hole Shows That the World Can Actually Solve an Environmental Crisis.” *Vox*, Vox, 3 Oct. 2021, https://www.vox.com/future-perfect/22686105/future-of-life-ozone-hole-environmental-crisis.

“Rebuilding the Ozone Layer: How the World Came Together for the Ultimate Repair Job.” *UNEP*, UNEP, https://www.unep.org/news-and-stories/story/rebuilding-ozone-layer-how-world-came-together-ultimate-repair-job.

Works Cited con't

"What Is the Current State of the Ozone Layer?" *European Environment Agency*, 9 Dec. 2022, https://www.eea.europa.eu/themes/climate/ozone-depleting-substances-and-climate-change-1.

"While the Ozone Layer Is Healing, Pitfalls Remain." *UNEP*, https://www.unep.org/news-and-stories/story/while-ozone-layer-healing-pitfalls-remain#:~:text=How%20long%20until%20the%20hole,there%20was%20no%20ozone%20depletion.

Wuebbles, Donald. "Ozone Depletion." *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., 23 Nov. 2022, https://www.britannica.com/science/ozone-depletion.

"HISTORY OF THE OZONE LAYER." *Ozone Layer History*, https://www.albany.edu/faculty/rgk/atm101/o3histor.htm.

"Center for Science Education." *The Ozone Layer | Center for Science Education*, https://scied.ucar.edu/learning-zone/atmosphere/ozone-layer.

Environment, UN. "About Montreal Protocol." *Ozonaction*, https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol.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