Forum:	Environmental Commission
Issue:	Establishing proper framework for the preservation of oceans and maritime lifeforms
Student Officer:	Georgios Banos
Position:	Deputy President

PERSONAL INTRODUCTION

Dear Delegates,

My name is George Banos and I will have the honour and privilege of serving as the Deputy President of the Environmental Commission at the forthcoming 7th PS-MUN conference. I'm an IB student currently attending Moraitis School. I have attended seven MUN conferences and this will be my second time chairing.

As a Student Officer, part of my responsibilities will be ensuring the proper functioning of the committee, as well as helping delegates prior to and at the time of the conference. This study guide is here to help you understand the topic and also to aid you in your research. However, I strongly urge you to do your own research as well, in order to come up with original and effective solutions for the issue.

I wish you good luck in your preparation and I look forward to meeting you in the conference.

Best Regards,

George Banos

INTRODUCING TOPIC

Covering over two-thirds of our blue planet, the ocean makes it habitable. It is the origin of all life on Earth and affects each of our lives. It is the source of our fresh water and half the oxygen we breathe. It also influences our climate and weather. Our ocean provides food, medicine, mineral and energy resources. It supports a multitude of life forms and shapes the Earth's characteristics.

Since its creation in 1945, the United Nations has always fought for the protection of our environment. In 1972, the United Nations Environment Programme was founded. The UNEP is the UN's specialized agency on environmental issues and during the last decades, has managed to achieve important victories for our environment. Specifically, our oceans are being polluted by CO2 emissions, mostly from industrialized nations like the United States and China. Unfortunately, federal control over the environmental impact of private businesses in some nations is lacking and this means that private

companies continue to pollute our environment and as a result the oceans, on a daily basis.

Furthermore, climate change has had enormous effects on the earth's oceans. Human activities are releasing gigatonnes of carbon into the Earth's atmosphere annually. This has resulted in what we now call "climate change". Direct consequences of cumulative post-industrial emissions include increasing global temperature, perturbed regional weather patterns, rising sea levels, acidifying oceans, changed nutrient loads and altered ocean circulation. These and other physical consequences are affecting marine biological processes from genes to ecosystems, over scales from rock pools to ocean basins, impacting ecosystem services and threatening human food security.

Due to habitat destruction, overfishing and pollution, the ocean is losing the ability to provide the benefits that humans have come to rely on: food, livelihoods, climate regulation. All of this is happening in the face of a rapidly changing climate and acidification of seawater, which is reducing the ability of the ocean to absorb carbon and to regulate global temperatures and local weather patterns. This isn't sustainable. Therefore, it is up to the delegates of the Environmental Commission to find sustainable solutions to a problem which seems to be one of the greatest issues that the global community will have to face over the next century.

KEY TERMS[1]

Pollution

The presence of, or the introduction into the environment of a substance which has harmful or poisonous effects ''. During the debating process on this topic, pollution will be examined regarding its effects on the oceans and maritime lifeforms, therefore the committee will be examining ''oceanic pollution''.

FRAMEWORK

The basic structure underlying a system or concept''. In this issue of the agenda, the goal of the delegates will be to find a way to create and impose a ''framework'' which will be mainly of international legal nature.

PRESERVATION

The state of being preserved, especially to a specified degree. When we discuss the issue of ''oceanic preservation'' we will be examining ways of preserving and improving the state of the earth's oceans so that they will not be harmful for humans as well as oceanic lifeforms.

CLIMATE CHANGE

[1] Terms defined by the Oxford English Dictionary

''A change in global or regional climate patterns, in particular, a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels''. Climate Change is one of the most important challenges that humanity will have to face over the next century. Its impact on the oceans has been enormous. This is why this term will be very important in our committee's discussions.

EMISSION

The production and discharge of something, especially gas or radiation. The emissions that have been the most harmful to our oceans are those of carbon dioxide. The delegates of the Environmental Commission will have to find ways to combat the use of carbon dioxide and make sure that the global community switches to more environmental-friendly energy sources.

BACKGROUND INFORMATION

Oceanic pollution has been a problem on our planet for a long time. Of course, the problem is caused by humans who have polluted the oceans for many years. We are seeing an increase of this, especially in the last few years. This increase can be mostly attributed to the rise of Co2 in our world, as the primary energy source and the deregulation of companies who have a tendency of harming the environment. Furthermore, global warming which has been caused by our Co2 emissions, has caused climate change, whose effects on the oceans and their life forms are in grave danger. In conclusion, we could divide the causes of oceanic pollution to Co2 emissions and Global warming but also, of course, littering.

Co2 EMISSIONS, GLOBAL WARMING AND OCEAN ACIDIFICATION

Global warming is increasing ocean temperatures and raising sea levels. What we see lately is that our oceans are currently facing another threat due to global warming-related emissions. Our oceans chemistry is changing due to the uptake of carbon dioxide from human activities. When carbon dioxide is absorbed by the oceans it reacts with seawater to form carbonic acid. This phenomenon is called 'Ocean acidification' and it is highly probable that this will create major negative impacts on corals and other marine life over time. This is expected to have negative consequences for marine ecosystems. Ocean acidification and climate change are both effects of excessive carbon dumping into the atmosphere. Ocean acidification is a straightforward chemical response to carbon dioxide emissions and is measured and predicted with a high degree of certainty. This means that at the moment the scientific community can be certain that there is a cause-effect relationship between human carbon dioxide emissions and ocean acidification. Therefore, the ocean's daily uptake of almost 22 million tons of carbon dioxide is starting to take its toll on the chemistry of seawater. The United States is the single largest contributor to global warming, responsible for nearly one-quarter of all human-made emissions. Ocean acidification

is a straightforward consequence of increasing carbon dioxide emissions due to human activities and is predicted with a high degree of certainty. Ocean acidification and climate change are both effects of excessive carbon dumping into the atmosphere. When discussing issues like emissions and ocean acidification during the debating process, it can be expected that the United States takes the initiative to act upon the issue, as the nation itself, is largely responsible.

At present, as the experts reveal, ocean chemistry is changing at least 100 times more rapidly than it ever did. If this continues to change that rapidly and having taken into account the current carbon dioxide emission trends, it is clear that there are many indications that the oceans will continue to be acidified and marine ecosystems will continue to deteriorate. Nearly all marine life forms which have shells have shown heavy deterioration because of the ocean's rising carbon dioxide levels. For example, after research, the current state of our oceans has shown to reduce the ability of corals to produce skeletons. This has resulted in the destruction of many coral reefs worldwide.

LITTERING

Littering also concerns our topic. Generally, around 70 % of our planet is covered by oceans and so marine litter can be found almost everywhere. Marine litter, plastics in particular, pose a threat not only to the health of our seas and coasts, but also to our economy and our communities. Most marine litter is generated by land-based activities like production and dumping of plastic, glass, metal etc.

Furthermore, approximately 10 million tons of litter end up in the world's seas and oceans every year. Plastics, more particularly plastic packages, are one of the most common human litters in the marine environment. Mass production of plastics started in the 1950s and since then, plastics are some of the most common things in a household. However, most plastics produced are disposable packaging, which means that it is plastic made simply for being thrown away after the product's usage. This makes dumping of plastics in the ocean by uninformed civilians more common. Unlike organic materials, plastic never 'disappears' in nature. A piece of plastic takes almost 400 years before dissolving in the ocean and it goes without saying that this is not sustainable.

In many occasions ocean currents, have gathered many pieces of plastic together and formed large waste patches called gyres. These gyres are fluid and change in size and shape. One of the most important gyres is the Indian Ocean Garbage patch which will be mentioned in the section below (countries involved in the issue)

MORE ABOUT MARINE LITER

It is estimated that about 80 % of the debris found in the marine environment comes from land-based activities. The source of marine litter is not necessarily limited to human activities along the coastline. Even when disposed of on land, rivers, floods and wind transport litter to the sea. Fishing activities, shipping, off-shore installations such as oil rigs and the sewage system contribute the rest. There are some regional variations in the origin of marine litter. In the Mediterranean, Baltic and Black Seas, land-based activities generate most of the marine litter. In contrast, in the North Sea, maritime activities are an equally significant contributor because of the sea's large gas and oil reserves. The full extent of the impacts of marine litter is difficult to estimate. But the scientific community has deemed it ''catastrophic for oceans and ecosystems''

Another issue is that marine animals and sea birds mistake marine litter for food, given its size and prevalence. One of the most common ways marine animals can be killed by human liter is by ingestion. Ingestion is not limited to one or two individual animals. It affects schools of fish, as well as flocks of sea birds. A stomach filled with indigestible plastic can prevent the animal from feeding and thus starving it to death. The chemicals in plastics can also act as poison, and depending on the dose, they can permanently weaken or kill the animal. Larger pieces of plastic also pose a threat to marine life. Many species, including seals, dolphins and sea turtles, can get entangled in plastic debris, and fishing nets and lines lost at sea. Most of the entangled animals do not survive, as they cannot get up to the water's surface to breathe, escape from predators or feed themselves.

Marine litter is a global problem and the only way the Environmental Commission delegate can deal with the problem is with co-operation. Such an important issue for our environment cannot be combated individually but collectively. According to United Nations Environment Programme (UNEP), only 15 % of marine debris floats on the sea surface, as most of the litter is at the bottom of the oceans. This means that the task for eradicating the existence of sea waste is not that easy after all.

COUNTRIES AND ORGANIZATIONS INVOLVED IN THE ISSUE

In this section, since oceanic pollution and the ways that it is caused is an issue which affects almost all countries, some important examples of nations who face important challenges because of the state of the oceans that surround them are presented.

INDIA

India's Ocean garbage patch, which was discovered in 2010, is one of the most important examples of ocean pollution. The garbage patch is a gyre of marine litter, which was founded in the Indian Ocean. It has been caused by excessive dumping of plastic, chemical waste and debris. This discovery has alerted the international community as UN agencies like UNESCO have been heavily involved in raising awareness about the garbage patch.

UNITED STATES OF AMERICA

It is surprising to notice that the nation which is the most responsible for marine pollution is also the one that is facing some of the biggest challenges. Over the last decades coastal areas in the U.S have suffered heavily because of excess dumping of garbage in the oceans, with many officials describing the situation as ''critical''. Also, global warming, which is the result of ineffective policies to regulate U.S companies (Co2 emissions), has had a very bad impact on some southern states like California and Florida, where droughts are a very common phenomenon.

TIMELINE OF EVENTS

1962	Marine biologist Rachel Carson publishes ''Silent Spring'', calling attention to the threat of toxic chemicals to people, the environment and oceans in specific
1972	Participants from 114 countries come to Stockholm, Sweden, for the UN Conference on the Human Environment. Only one is an Environment Minister, as most countries do not yet have environmental agencies. The delegates adopt 109 recommendations for government action and push for the creation of the UN Environment Programme. (UNEP)
1982	The UN Convention on the Law of the Sea sets a comprehensive framework for ocean use and outlines provisions on ocean conservation, pollution prevention, and protecting and restoring species populations.
1983	The U.S. Environmental Protection Agency and the U.S. National Academy of Sciences release reports concluding that the build-up of carbon dioxide and other "greenhouse gases" in the Earth's atmosphere will likely lead to global warming, which could be detrimental.

1992	The Convention on Climate Change sets non-binding carbon dioxide reduction goals for industrial countries. This was an attempt to regulate Co2 emissions and reduce the damage the had caused on our oceans.
1995	The Intergovernmental Panel on Climate Change (IPCC), a group of hundreds of prominent climate scientists assembled by the UN in 1988, releases a report concluding that "the balance of evidence suggests that there is a discernible human influence on global climate.
2001	The IPCC releases a report citing "new and stronger evidence that most of the observed warming of the last 50 years is attributable to human activities." The study projects that at current rates, temperatures will increase by 1.4 to 5.8 degrees Celsius by 2100. It goes without saying that this could have detrimental effects on the Earth's oceans.
2001	U.S. President George W. Bush announces that the United States will not ratify the Kyoto Protocol, saying that the country cannot afford to reduce carbon dioxide emissions.
2001	Pathbreaking UN Agreement for the Conservation and Management of Straddling and Highly Migratory Fish Stocks enters into force, laying the ground rules for fisheries in international waters. With this agreement, it would be easier to ensure that companies would not conduct illegal fishing.
2002	Survey finds that bleaching at Australia's Great Barrier Reef in 2002 may be the worst on record, affecting up to 60 percent of reefs.

2002	Oil tanker ''Prestige'' carrying 77,000 tons of oil splits apart, contaminating Spain's Galicia coastline and unleashing public anger worldwide.
2003	Scientists report industrial fishing has killed off 90 percent of the world's biggest and most economically important fish species.

SOURCE: http://www.worldwatch.org/brain/features/timeline/timeline.htm

POSSIBLE SOLUTIONS

- Stricter government control and regulation on industry and private corporations to ensure that the companies do not violate any international treaties related with the preservation of the oceans

- Efforts by the own governments for the implementation of renewable energy sources in all areas of government and business.

- Co-operation between governments and international organizations to push for renewable energy sources in industry as a means to cut down Co2 emissions.

- Implementation of ecologically-friendly wastewater disposal options so that human waste will not have a negative impact on the oceans.

- Educational campaigns by the UN and governments to help educate the public on the importance of the oceans and how to preserve them.

- Creation of effective legislation in each nation, which will ensure that private and public corporations that harm the environment and therefore the oceans, by emitting large quantities of carbon dioxide, will be held accountable for their actions against our oceans.

BIBLIOGRAPHY

- Society, National Geographic. "Marine Pollution." National Geographic. National Geographic, n.d. Web. 15 Feb. 2017.

- "Ocean Pollution." Ocean Pollution | National Oceanic and Atmospheric Administration. N.O.A.A, n.d. Web. 15 Feb. 2017.

- "Environmental Milestones: A Worldwatch Institute Timeline Tracing Key Moments in the Sustainability Movement from the 1960s to 2004." Environmental Milestones: A Worldwatch Institute Timeline Tracing Key Moments in the Sustainability Movement from the 1960s to 2004. N.p., n.d. Web. 15 Feb. 2017.

- McDermott, Annette. "Solutions for Ocean Pollution." Lovetoknow. N.p., 29 Dec. 2016. Web. 15 Feb. 2017.

- "Figure 2.7.1. Trends in CO2 Emissions, 1990-2012." (n.d.): n. pag. Netherlands Environmental Assesment Agency/ The European Union Reaserach Centre. Web.