

Forum:	Environmental Commission (EC)
Issue:	Addressing the implications of flooding in Western and Northern Europe
Student Officer:	John Tzortzatos
Position:	Co-Chair

PERSONAL INTRODUCTION

Dear Delegates,

My name is John Tzortzatos, I am 16 years old, and I currently attend the 11th grade of Platon School. I am extremely honored to be serving as a Co-Chair in the Environmental Commission at the 11th Platon school Model United Nations conference. My first experience with MUN was at the age of fifteen, and ever since then, I have been actively participating in MUNs as a delegate, but this is my first-time chairing. This year the environmental commission gives you the chance to debate on serious issues such as Strategies to assess and counteract the effects of coral bleaching, Addressing the implications of flooding in Western and Northern Europe, towards regulating e-waste dumps in Africa, Promoting the Environmental Rights Initiative as a tool to connect environmental and human rights.

I will be acting as the expert chair on the topic of flooding in western and northern Europe. Thus, it is my duty to introduce you to the topic, guide you in your research, and help you fully understand the subject. For all of you to have a fruitful debate, please note that you will have to do extra research outside this guide.

If any questions arise, feel free to contact me at my email address: jtzortzatos2005@gmail.com

Best regards,

John Tzortzatos

TOPIC INTRODUCTION

Annual flooding in Europe has been a recurring issue. As of 1960, however, a trend of increasing floods in the regions of Western and Northern Europe has been noted. Many have argued that flooding is a by-product of the augmented frequency of autumn and winter rainfalls, and, by extension, that they are a result of climate change.¹ This increase in rainfall has and will have severe effects not only on the people affected by them but also on the surrounding environment. This is the case as with each flood the landscape of the area affected is changed which can lead to the destruction of many homes of animals, thus harming the wildlife in general. Floods also help in the spread of diseases that affect both humans and the fauna of ecosystems. In addition to the effects floods have on the environment, they can also cause damages that will cause nations very large amounts of money to repair.

The prevention of floods remains a key issue for the lowland areas of Western and Northern Europe which are especially at risk. Floods can cause great harm to the regions flora and fauna which could cause problems for a great part of Europe's ecosystems. Though floods do not only have environmental importance but also are of economic importance as most of Europe's biggest ports² are in areas susceptible to floods which could mean that if a serious flood happens in such regions Europe will be cut out from a large part of their imports and exports. In addition to that, much of the industrial base of Europe is located in Western and Northern Europe. Due to all these reasons, all nations globally should work together to combat this issue to ensure stability for Europe's ecosystems and its trade.

DEFINITION OF KEY TERMS

Flood

A rising and overflowing of a body of water especially onto normally dry land³

Flash flood

A local flood of short duration generally resulting from heavy rainfall in the immediate vicinity

Torrent

A large amount of water moving very quickly⁴

¹ "River Floods — European Environment Agency." *Www.eea.europa.eu*, 16 Dec. 2019, www.eea.europa.eu/data-and-maps/indicators/river-floods-3/assessment. Accessed 18 Dec. 2021.

² "The Largest Ports in Europe." *ShipHub*, 4 Sept. 2019, www.shiphub.co/the-largest-ports-in-europe/. Accessed 18 Dec. 2021.

³ "Definition of FLOOD." *Merriam-Webster.com*, 2019, www.merriam-webster.com/dictionary/flood. Accessed 18 Dec. 2021.

⁴ "Oxford Advanced Learner's Dictionary at Oxford Learner's Dictionaries | Find Meanings and Definitions of Words." *Oxfordlearnersdictionaries.com*, 2019, www.oxfordlearnersdictionaries.com/definition/english. Accessed 18 Dec. 2021.

Saturated soil

A soil in which the voids are filled with water⁵

Impermeable

Not permitting passage of a fluid through its substance⁶

Dam

A barrier preventing the flow of water⁷

Storm surge

An abnormal rise in the level of the sea along a coast caused by the onshore winds of a severe cyclone⁸.

Cyclone

A storm or system of winds that rotates about a center of low atmospheric pressure⁹

Hurricane

An extremely large, powerful, and destructive storm with very strong winds that occurs especially in the western part of the Atlantic Ocean¹⁰

Ecosystem

The complex of a community of organisms and its environment functioning as an ecological unit¹¹

Sediment

The matter that settles to the bottom of a liquid¹²

Erode

To diminish or destroy by degrees¹³

⁵ "Saturated Soil Definition." *Law Insider*, www.lawinsider.com/dictionary/saturated-soil. Accessed 18 Dec. 2021.

⁶ "Definition of IMPERMEABLE." *Www.merriam-Webster.com*, www.merriam-webster.com/dictionary/impermeable. Accessed 18 Dec. 2021.

⁷ "Definition of DAM." *Merriam-Webster.com*, 2019, www.merriam-webster.com/dictionary/dam. Accessed 18 Dec. 2021.

⁸ "Definition of Storm Surge | Dictionary.com." *Www.dictionary.com*, www.dictionary.com/browse/storm-surge. Accessed 18 Dec. 2021.

⁹ "Definition of Storm Surge | Dictionary.com." *Www.dictionary.com*, www.dictionary.com/browse/storm-surge. Accessed 18 Dec. 2021.

¹⁰ "Definition of Hurricane | Dictionary.com." *Www.dictionary.com*, www.dictionary.com/browse/hurricane. Accessed 18 Dec. 2021.

¹¹ "Definition of ECOSYSTEM." *Merriam-Webster.com*, 2012, www.merriam-webster.com/dictionary/ecosystem. Accessed 18 Dec. 2021.

¹² "Definition of SEDIMENT." *Merriam-Webster.com*, 2019, www.merriam-webster.com/dictionary/sediment.

¹³ "Definition of ERODE." *Www.merriam-Webster.com*, www.merriam-webster.com/dictionary/erode. Accessed 18 Dec. 2021.

BACKGROUND INFORMATION

General information on floods

A flood is an overflow of water in a normally dry land. There are many reasons floods can occur but the most common ones are during heavy rains, when ocean waves come on shore or when dams break floods can occur in the span of a few minutes or over the span of a longer period of time. They can last from a few hours to a few days. Flash floods are especially dangerous as they occur within minutes and they combine the destructiveness of a normal flood along with an incredible speed¹⁴.

Causes of floodings

Heavy Rains

Flooding is caused due to a variety of reasons. The most common reason that floods are caused is due to heavy rains, though infrastructure systems exist to prevent flooding from being caused by heavy rains if the rains persist these systems can get overwhelmed and flooding can be caused¹⁵.

Rivers Overflowing

In addition to that, the overflowing of rivers can also be the main cause of floods, as many rivers run through dry and impermeable terrain, when heavy rain falls on the river the soil cannot absorb the water and thus lead to all the excess water to flow out of the river and flood the surrounding area, this phenomenon should be less apparent in these times as longer rivers are usually dammed in order to prevent such floods from happening.

Dams Breaking

The construction of dams though can also be a problem¹⁶. As dams are made to hold off water from overflowing in rivers and other places thus their breakage can have a worse effect from overflowing rivers, as dams breaking will send a powerful surge of water downstream and destroy anything in its path¹⁷ this is made worse as many dams are of the 20th century and some smaller ones older which makes them more susceptible to destruction¹⁸ with a prime example being how the breaking of a dam during hurricane Katrina in 2005 caused the effects to be much worse.

¹⁴ "Flood Basics." *NOAA National Severe Storms Laboratory*, 2015, www.nssl.noaa.gov/education/svrwx101/floods/.

¹⁵ "What Causes Floods? | the 8 Most Common Causes of Flooding." B-Air Blowers, Air Movers & Dehumidifiers | Commercial Equipment, 26 Sept. 2018, b-air.com/2018/02/common-causes-flooding/. Accessed 18 Dec. 2021.

¹⁶ "What Is a Flood? | What Causes a Flood? | Flooding | Earth Networks." Earth Networks, 2017, www.earthnetworks.com/flooding/. Accessed 18 Dec. 2021.

¹⁷ "What Are the Main Causes and Effects of Floods around the World?" *Earth.org - Past | Present | Future*, 31 Aug. 2021, earth.org/what-are-the-main-causes-and-effects-of-floods/. Accessed 18 Dec. 2021.

¹⁸ "Reservoirs and Dams — European Environment Agency." *Www.eea.europa.eu*, www.eea.europa.eu/archived/archived-content-water-topic/reservoirs-and-dams. Accessed 18 Dec. 2021.

Storm Surges

One last cause of flooding is storm surges during cyclones or hurricanes can cause the sea levels to rapidly rise and flood coastal areas¹⁹. This is a cause that is much harder to prevent and protect from as the sea in nations of North and Western Europe can cover an excessively large mass thus making it difficult to combat. With a prime example being hurricane Katrina in 2005 which caused a storm surge of 8-9 meters above sea level²⁰

Effects of flooding

The reason for the importance of flood protection and prevention is the many impacts that floods have both on the environment and humans. First and foremost, floods are a big cause of harm to the affected wildlife due to multiple reasons. With the sudden increase of water, many animals are unable to escape thus leading to drowning, in addition to that the habitats of many animals can be destroyed due to floods which could lead to many animals having to migrate, thus harming the regional ecosystem, another problem is that plant life can also be disrupted which could cause big problems throughout the food chain of the region which could have long term impacts on the survival of the wildlife²¹. Another impact of floods is that they can cause Sedimentation and Erosion since floods carry material from places that they have travelled, sediment can stay in the water which in turn can cause the lowering of its quality, while also causing the increase of algae which can disrupt ecosystems and contaminate drinking water²². Due to sedimentation, the clogging of rivers and streams can cause overflow, when the floods are fast-moving the riverbanks can get eroded which can lead to the erosion of the land thus it is much worse in highly populated areas²³. The last and most important effect of floods is the fact that they can carry diseases and contamination, as floodwaters move around human-populated areas, it increases the amount of spread from water-borne diseases whilst when the waters recede large pools of water are created, which are perfect places of breeding for mosquitoes which carry diseases. The floodwaters can also carry pollutants that were picked up from agricultural or industrial areas which could lead to the disruption and destruction of ecosystems that the floodwaters pass from, these effects can worsen if the floodwaters reach the sea as it can disrupt important ecosystems such as coral reefs.

¹⁹ "What Are the Main Causes and Effects of Floods around the World?" *Earth.org - Past | Present | Future*, 31 Aug. 2021, earth.org/what-are-the-main-causes-and-effects-of-floods/. Accessed 18 Dec. 2021.

²⁰ Henry, Charlie. "The Dangers of Storm Surge and Flooding | NOAA's Office of Response & Restoration Blog." *Blog.response.restoration.noaa.gov*, 30 Mar. 2021, blog.response.restoration.noaa.gov/dangers-storm-surge-and-flooding.

²¹ "Alberta WaterPortal." *Albertawater.com*, 2011, albertawater.com/what-are-the-consequences-of-flooding/environmental. Accessed 18 Dec. 2021.

²² Society, National Geographic. "The Many Effects of Flooding." *National Geographic Society*, 14 Sept. 2021, www.nationalgeographic.org/article/many-effects-flooding/. Accessed 18 Dec. 2021.

²³ "Impact of River Bank Erosion." *Lrlr.landscapeonline.de*, lrlr.landscapeonline.de/Articles/lrlr-2014-3/articlese6.html. Accessed 18 Dec. 2021.

The relationship between flooding in Europe and climate change

Climate change has been a leading factor in the increase in flooding in the regions of Western and Northern Europe. The first reason of the effects is that due to the warmer atmosphere, more water can be held and thus it can cause larger amounts of rainfalls and make them more often leading to the increase and worsening of floods in those regions of Europe. In addition to that the soil is becoming wetter and precipitation is increasing which means that the natural barrier against flooding is being weakened as the soil can hold less and less water during rainfalls²⁴. From studies, it has been shown that there has been an increase in rainfall in Europe of between 3%-19%. In addition to that, it has been discovered that the rainfall events that cause floods in Europe will be more likely to happen by a factor of 1.9-9. Such events under normal circumstances are supposed to happen every 400 years but due to climate change these events are predicted to happen much more often²⁵

July 2021 floods in Europe

Though North and West Europe has seen flooding throughout, in mid-July of 2021 rainfall had exceeded records of past times causing huge floods in Germany, France, Belgium, Luxemburg, the Netherlands, and Switzerland with heavy floods being present in the regions of western Rhineland-Palatinate and north Rhineland-Westphalia

The amount of rain that was recorded in Rhine-Westphalia was 154 millimeters which amounted to a higher July's average of 87 mm in the region,²⁶²⁷. This huge amount of rainfall was caused by a storm complex that had stalled in the region for 1-2 days and the previous wet conditions with the soil reaching its maximum saturation leading to immense flooding²⁸²⁹. This caused flooding of the river banks in the area, but it also meant that dams were overflowing, leading to multiple evacuation orders, whilst in many places the formation of Torrents was seen, further endangering human lives.

²⁴ "Climate Change Affects Floods in Europe." *ScienceDaily*, 2019, www.sciencedaily.com/releases/2019/08/190828140128.htm. Accessed 18 Dec. 2021.

²⁵ "Climate Change Has Increased Intensity of Floods in Europe, Finds Study | the Weather Channel - Articles from the Weather Channel | Weather.com." *The Weather Channel*, 14 Aug. 2021, weather.com/en-IN/india/environment/news/2021-08-24-climate-change-has-increased-the-intensity-of-european-floods. Accessed 18 Dec. 2021.

²⁶ "Dozens Killed in Flooding across Western Europe." *Www.kten.com*, www.kten.com/story/44316020/dozens-killed-in-flooding-across-western-europe. Accessed 18 Dec. 2021.

²⁷ "Devastating Floods in Western Europe | EUMETSAT." *Www.eumetsat.int*, www.eumetsat.int/devastating-floods-western-europe. Accessed 18 Dec. 2021.

²⁸ "Flooding in Western Europe: The Impact of the Climate Crisis." *Ambiental Risk*, 17 Nov. 2021, www.ambientalrisk.com/flooding-in-western-europe-and-the-climate-crisis/. Accessed 18 Dec. 2021.

²⁹ "DLR – Situation Information for Disaster Management." *DLRARTICLE DLR Portal*, 2021, www.dlr.de/content/en/articles/news/2021/03/20210716_situation-information-for-disaster-management.html. Accessed 18 Dec. 2021.

Whilst also flash flooding occurred in community areas leading to numerous casualties³⁰³¹³².

During these floods at least 189 people had died with many remaining missing while thousands are left without homes, with extreme cases such as Venlo, which is a city situated on the river Maas, having to evacuate 10.000 people from their homes who were luckily able to return to their homes after the preparation of the Netherlands military and volunteers whilst in the German towns and infrastructure alike were swept away along with 158 people who lost their lives, leading the German president to describe this as one of the worst natural disasters in a century. The worst-hit was the region of Rhineland-Palatinate which saw the brunt of the deaths, counting 110 people losing their lives during the floods.³³³⁴

The nations of Europe that have been struck by this catastrophe have reacted to this in different ways. Firstly, Germany has been hit the hardest from the floods and has implemented a 400-million-euro relief plan to help survivors with immediate needs with half being paid by the country's government and the other half by the individual German state governments. On July 21st Germany also announced a 200 million aid package and other German states have announced their aid packages. A second package will be released in the future with its main aim being essential infrastructure with it being likely to cost 2 billion³⁵, in addition to that, 850 soldiers have been sent to help with the disaster relief. In Belgium, more than 150 workers from different nations have arrived to provide emergency assistance to those affected by catastrophic floods³⁶, whilst in response to the flooding, the Walloon government has announced a 2-billion-euro economic plan to grant every household affected interest-free loans of 2.500 euros to cover basic needs. The Netherlands has decided to cover part of the damages caused by the floods, but they have set themselves upon a strict

³⁰ CNN, Angela Dewan, Nadine Schmidt and Ulrike Dehmel. "European Officials Say 'Climate Change Has Arrived' as Deadly Floods Engulf Entire Towns." *CNN*, edition.cnn.com/2021/07/16/europe/germany-floods-belgium-climate-change-grm-intl/index.html. Accessed 18 Dec. 2021.

³¹ "More than 60 Dead, Dozens Missing in Heavy Europe Floods." *PBS NewsHour*, 15 July 2021, www.pbs.org/newshour/world/more-than-30-dead-dozens-missing-in-heavy-europe-floods. Accessed 18 Dec. 2021.

³² "Floods Kill More than 125 after Record Rainfall in Western Europe." *Www.cbsnews.com*, www.cbsnews.com/news/flooding-in-germany-europe-deaths-record-rainfall-western-europe-2021-07-16/. Accessed 18 Dec. 2021.

³³ CNN, Angela Dewan, Nadine Schmidt and Ulrike Dehmel. "European Officials Say 'Climate Change Has Arrived' as Deadly Floods Engulf Entire Towns." *CNN*, edition.cnn.com/2021/07/16/europe/germany-floods-belgium-climate-change-grm-intl/index.html. Accessed 18 Dec. 2021.

³⁴ CNN, Ivana Kottasová. "Enormous Scale of Destruction Is Revealed as Water Subsides after Historic Western Europe Flooding." *CNN*, edition.cnn.com/2021/07/18/europe/western-europe-floods-sunday-intl/index.html. Accessed 18 Dec. 2021.

³⁵ Center for Disaster Philanthropy. "Western European Flooding." *Disasterphilanthropy.org*, 2021, disasterphilanthropy.org/disaster/western-european-flooding/. Accessed 18 Dec. 2021.

³⁶ CNN, By Eliza Mackintosh. "Flooding in Germany and Belgium: Live Updates." *CNN*, 16 July 2021, edition.cnn.com/europe/live-news/deadly-flooding-in-europe-07-16-21/index.html. Accessed 18 Dec. 2021.

budget of 500 million euros per disaster and the money will only cover the damage caused by the flooding and not by the rainfall damage³⁷.

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

Germany

Germany has been hit the hardest from the floods and has implemented a 400-million-euro relief plan to help survivors with immediate needs with half being paid by the country's government and the other half by the individual German state governments. On July 21st Germany also announced a 200 million euro aid package and other German states have announced their aid packages. A second package will be released in the future with its main aim being essential infrastructure with it being likely to cost 2 billion.

Belgium

Belgium has adopted "The sigma plan" since 1977. In recent times in response to the flooding, the Walloon government has announced a 2-billion-euro economic plan to grant every household affected interest-free loans.

Netherlands

The Netherlands has decided to cover part of the damages caused by the floods but they have set themselves upon a strict budget of 500 million euros per disaster and the money will only cover the damage caused by the flooding and not by the rainfall damage.

Italy

The Italians began the project "Mose" in 1970. The Italians in reaction to the recent 2021 floods have sent search crews and vehicles to the region of Wallonia to help locate missing people

European

Union

The European Union has enacted Directive 2007/60/EC to help combat flooding in the past with a plethora of other guidelines to help Western and Northern European nations with the recent severity of the floods, having activated a civil emergency response mechanism to help areas of Belgium affected by the flooding.

³⁷ Center for Disaster Philanthropy. "Western European Flooding." *Disasterphilanthropy.org*, 2021, disasterphilanthropy.org/disaster/western-european-flooding/. Accessed 18 Dec. 2021.

TIMELINE OF EVENTS

Date of Event	Description of event
1977	“The sigma plan” is adopted as a reaction to the 1976 flooding, by Belgium
1980	Project “Mose” is proposed as a way to prevent flooding in Venice
2002	The creation of the document (EUR 20386 EN) by the European Commission for guidelines for flash flood prevention and mitigation
September 25th, 2003	The document by the EU named “Best practices on flood prevention ,protection and mitigation” was made
August 23 rd – 31 st , 2005	Hurricane Katrina Forms causing floods on the American South West that lead to around 2.000 fatalities
November 26 th ,2007	Directive 2007/60/EC has entered into force
November 7 th ,2011	Due to the disastrous weather of November, flooding is caused in France and Italy, resulting in three deaths in France
May 13 th ,2014	Cyclone Tamara triggers heavy rainfall in the Balkans causing flooding in Bosnia Herzegovina, eastern Croatia and Serbia
March ,2018	The WHO document entitled “Flood preparedness in the WHO European Region” is published
14-15/7/2021	Two days of severe rain due to a stagnated storm caused flooding over Western and Northern Europe

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

The Sigma Plan

The plan of Belgium which was named “The Sigma plan” was established in 1977 as a reaction to the 1976 floods. Its main points include the protection from storm surges and river overflows from heavy rainfall whilst it also plans to protect nature. This plan is focused on the Scheldt river and its tributaries, as its objects are to protect the land around it from storm surges and river flooding. This plan also has an environmental goal as they plan to restore the ecosystems present in the river, lastly, the plan also aims to make the area more attractive to visitors by enhancing the recreational uses of the area. The plan was initiated in 1977 and then continued to be updated in 2005 which plans its completion in 2030 with any additional changes to happen afterwards due to reaction to rising of the sea level and climate change. In addition, its planned lifespan will be until 2100, with a current cost estimate of 830 million euros³⁸.

³⁸ “An Integrated Plan Incorporating Flood Protection: The Sigma Plan (Scheldt Estuary, Belgium) — Climate-ADAPT.” *Climate-Adapt.eea.europa.eu*, 7 July 2016, climate-adapt.eea.europa.eu/metadata/case-studies/an-integrated-plan-incorporating-flood-protection-the-sigma-plan-scheldt-estuary-belgium. Accessed 18 Dec. 2021.

Project Mose

The Venetian government named this project “Mose” and was made as a reaction to the 1966 flood of Venice which sank the city by 28 centimeters causing many deaths and poverty. The project was delayed and only suggested as an idea in 1970 and its design began in 1982 with it being approved in 1994; the environmental studies needing to be done beforehand happened in 1998 and was accepted in 2002 thus the project began construction in 2003. The project plan was that 78 mobile gates would be built below sea level in different areas of Venice with them being 28 meters long and 20 meters tall, the way they work is that when a high tide is approaching, Venice air will be pumped inside of them causing them to rise to block the tide from entering the city. The work was completed in 2014 with its first use being seen in 2020³⁹⁴⁰ showing that the speed at which the walls raise is too slow for any actual protection to be driven from them with the only way that they could be useful is with the barriers working as a permanent wall which would cause problems to the ecosystem of the lagoon.

WHO Document

The World Health Organization has published a document entailing the things that the WHO has learned about flood prevention and protection from the 2014 Balkan floods and the tools they have created since then to attempt to prevent floods.⁴¹

Directive 2007/60/EC

There are attempts of the European Union by creating legislation and guides on how to prevent and mitigate the impact of flooding but also a directive (2007/60/EC) which made all the EU states assess the risk of flooding for watercourses and coastlines which have helped map out and assess the flood risks of all of the EU nations⁴²⁴³⁴⁴

³⁹ “MOSE Project, Venice, Venetian Lagoon.” *Water Technology*, www.water-technology.net/projects/mose-project/. Accessed 18 Dec. 2021.

⁴⁰ “Venice’s Flood Barriers (Project MOSE) Activated for First Time.” *ITALY Magazine*, www.italymagazine.com/featured-story/venices-flood-barriers-project-mose-activated-first-time. Accessed 18 Dec. 2021.

⁴¹ Reinicke, Corinna, and Ute Enderlein. *SHORT COMMUNICATION Flood Preparedness in the WHO European Region: Paving the Way*.

⁴² *BEST PRACTICES on FLOOD PREVENTION, PROTECTION and MITIGATION Best Practices on Flood Prevention, Protection and Mitigation*.

⁴³ Colombo, Alessandro, et al. *EUROPEAN COMMISSION JOINT RESEARCH CENTRE Institute for the Protection and Security of the Citizen Technological and Economic Risk Management Natural Risk Sector I-21020 Ispra (VA) Italy NEDIES PROJECT Guidelines on Flash Flood Prevention and Mitigation*. 2002.

⁴⁴ “Flood Risk Management - Water - Environment - European Commission.” *Ec.europa.eu*, ec.europa.eu/environment/water/flood_risk/index.htm. Accessed 18 Dec. 2021.

POSSIBLE SOLUTIONS

Improving Infrastructure

As seen before the best way to prevent floods directly caused by rainfall is infrastructure, thus delegates could suggest ways to both amend old and fragmented infrastructure in the areas affected whilst also building new infrastructure in areas where there is shortage.

Decrease Climate change

The floods seemed to have become more severe and more frequent with the worsening state of the climate, thus delegates could suggest new measures to decrease the impact of climate change, (such as the decrease of the use of fossil fuels, the creation of a fee on carbon, etc.) and could also propose the enforcement of already existing treaties.

Training officials

When a flood happens, what is needed is to have the regional forces be properly trained on how to handle the situation and how to prevent the worst from happening, thus the delegates could suggest the creation of workshops for public officials in order to be able to better handle flooding, or they could include such training in the basic training of the officials.

Raising Awareness

Through the creation of worldwide information campaigns to inform people on the dangers of floods and some ways that people could protect their items and themselves through TV infomercials and radios, the loss of life due to floods could be decreased.

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