**Committee:** Security Council

**Issue:** Mitigating the security risks resulting in displacement caused by climate change

**Student Officer:** Melvin-Solomon Berkowitz

**Position:** Deputy President

## PERSONAL INTRODUCTION

Dear Delegates,

My name is Melvin-Solomon Berkowitz and will be an 11th grader at Anatolia College in Thessaloniki. It is my utmost honor to serve as the Deputy President of the Security Council for DSTMUN 2020, to which I wholeheartedly welcome you. Overall, this will be my 9th conference and my 3rd time chairing. I could not be more excited to preside along with my fellow chairs, over this Council, while debating one of the most contentious matters of today.

I would also like to congratulate you on remaining actively engaged in matters concerning the global community through MUN, which will in return, provide you not only with knowledge but also with skills and a social network.

The UN is undoubtedly one of the most influential organizations around the world, responsible for shaping a better world. Despite that, the future seems unhopeful, as Climate Change is becoming an ever more threating challenge to our world, due to the detrimental environmental repercussions that it will incur, and in turn, to their own effects, namely migration.

The task of devising solutions is bestowed upon you. This year, DSTMUN is taking part in the UN High Commission for Refugees MUN Challenge, and the Security Council is participating with the topic covered in this study guide. Therefore, the clauses that you will debate and pass, will be submitted to the challenge.

This study guide is meant to equip you with all the necessary information in order to cooperate, devise clauses, debate and vote upon potential methods to ameliorate the damage that climate change and migration will bring about. Be aware, however, that adequate preparation will require extensive research on your behalf as well. For further questions related to the topic or the rules of procedure, please do not hesitate to contact me at 20161074@student.anatolia.edu.gr.

Yours,

Melvin-Solomon Berkowitz

## TOPIC INTRODUCTION

Climate Change is one of humanity's greatest difficulties at the moment, as it may easily endanger life on Earth in the long-term. Due to Climate Change, humanity is due to see the polar caps melt, and hence to experience rising sea levels around the globe which will, in turn, cause severe flooding in the most prone areas. Additionally, a major change in the weather patterns, such as the precipitation patterns, is imminent. More specifically, scientists predict that storms, droughts and other extreme weather phenomena will not only gradually worsen, but will also become more frequent. Lastly, Climate Change will also cause prolonged summers and/or winters, depending on the region.[1]

Naturally, the aforementioned consequences of climate change will also cause in their own right major security risks, which will endanger all the development that the international community has achieved. As a result of climate change, humanity will be faced with aggravated food and water insecurity, reduction of arable land, and the temporary or permanent rendering of certain areas as unlivable. [2]

As a consequence, a growing amount of people will be forced to abandon their residences, either urgently or gradually. Such migration can be directed to the interior of a state- in which case they would be Internally Displaced Persons (IDPs)- or to other countries. Regardless of that, the term "climate refugees" is often used to describe this circumstance.

Apart from the expected challenges of migration, displacement caused by climate change also challenges the notion of the safe return and reinstitution of the displaced individuals in their homeland. Climate change may easily render the most susceptible to it areas (i.e. small island states) permanently hostile for humans, therefore imposing more difficulties, especially when it comes to devising a sustainable solution. What is more, in the areas of relocation, there will be conflicts over food, water and energy resources, especially in areas with pre-existing conflicts, such as the Sahel region. Lastly, the work of NGO's and of the international community is impeded by various legal challenges, which, though seeming meaningless, make a huge difference.[3]

[1] "The Effects of Climate Change." *NASA.gov*, US National Aeronautics and Space Administration, 30 Sept. 2019, www.climate.nasa.gov/effects/.
[2] https://web.archive.org/web/20160705141123/http://www.berlin-institut.org/fileadmin/user_upload/handbuch_texte/pdf_Renaud_Environmental.pdf
[3] "Background Guide: Climate Change and Displacement." *UNCHR.org*, United Nations High Commission on Refugees, https://www.unhcr.org/5df9f01b4.

## DEFINITION OF KEY TERMS

### Climate Change

Climate Changes refer to "Changes in the world's weather, in particular the fact that it is believed to be getting warmer as a result of human activity increasing the level of carbon dioxide in the atmosphere."[4]

Climate change can have, of course, destructive effects on the safety of the planet. Some of these include longer and harsher winters/summers, more frequent and intense droughts/storms and other extreme weather phenomena, the melting of the polar ice caps. As a result, the rise of global sea levels and desertification of large portions of land.

### Internally Displaced Person (IDP)

An Internally Displaced Person (IDP) is someone who has fled their home because of "the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters"[5] and have not crossed international borders.

As seen in the definition, natural disasters which in essence include the ones caused by climate change, are a plausible reason for someone to be characterized as an IDP. Therefore, as long as they do not cross any borders, persons that have been displaced due to climate change are entitled to privileges available to IDP, as seen in the Guiding Principles on Internal Displacement[6].

### Climate Refugee

"Climate refugee" are, in general, individuals who have been forced by natural disasters -usually caused by climate change- to abandon, permanently or temporarily, their residences and flee either to other areas within their country, or to seek refuge to other states[7]. Hence, it is an umbrella term used to refer to the entirety of the displacement that climate change causes.[3]

This term, though often utilized by media, does not exist in international law, lacks a complete and widely accepted definition and is therefore ambiguous. Climate

[4] According to: "Climate Change." *Cambridge English Dictionary,* Cambridge University Press, https://dictionary.cambridge.org/dictionary/english/climate-change.
[5] According to: "Internally Displaced Person." *European Commission: Migration and Home Affairs,* European Commission, https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary_search/internally-displaced-person_en,
[6] Please find the Guiding Principles on Internal Displacement here: https://www.unhcr.org/protection/idps/43ce1cff2/guiding-principles-internal-displacement.html.
[7] "The Concept of 'Climate Refugee': Towards a Possible Definition." *European Parliament*, European Union, February 2019, https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621893/EPRS_BRI(2018)621893_EN.pf.

refugees, as loosely defined above, do not fall under the category of refugees, as environmental reasons are not included in a refugee's definition[8]. Consequently, they are not legally privy to the aid provided to refugees.

During your research, you might also encounter the term "Environmental Migrant/Refugee" which carries the same meaning[7].

### Desertification

Desertification is "the process by which natural or human causes reduce the biological productivity of drylands (arid and semi-arid lands)"[9]

The most proper phrase is land degradation, a term that can scientifically be applied to any part of the world, while desertification usually refers to arid lands.

### Small Island Developing State (SIDS)

Small Island States are countries mainly located in the Pacific or the Indian Ocean, as well as in the Caribbean Sea. They are made up solely of small islands, in what are most likely secluded and far away locations, while they also have small populations. These states are the most susceptible to climate change and its repercussions areas.

## BACKGROUND INFORMATION

### Rising Sea Levels

Scientists contend that since 1880, sea-levels have risen by as much as 23 cm, while they also calculate that by average, sea-levels rise by 3.2 mm every year. While these numbers may seem relevantly small and insignificant, in reality even the slightest such increase can have catastrophic effects, some of which are already appearing.

Rising sea levels is a problem usually attributed to two causes, all of which are linked to climate change[10].

#### Global Warming

Global Warming, which is one of the main effects of climate change, leads to the augmentation of global temperatures, and as a result the oceans' temperature

[8] For the full definition of a refugee see: "Refugee." *European Commission: Migration and Home Affairs,* European Commission, https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary_search/refugee_en.
[9] Rafferty, John and Stuart Pimm. "Desertification." Encyclopædia Britannica, Encyclopaedia Britannica, Inc., January 29,2020, https://www.britannica.com/science/desertification.
[10] Nunez, Christina. "Sea Level Rise, Explained." National Geographic, National Geographic, February 19, 2019, https://www.nationalgeographic.com/environment/global-warming/sea-level-rise/.

also increases. This dramatic spike in the ocean's energy and heat contents has caused waters to expand, physically occupying more space on Earth, leading to the phenomenon named "thermal expansion"[11]

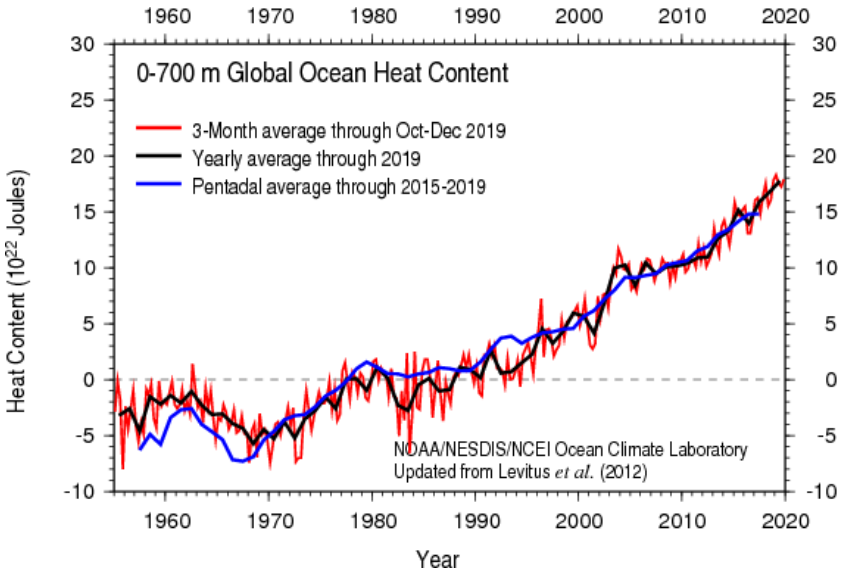


***Figure 1: Average ocean heat content in zettajoules[12]***

Melting glaciers, polar caps and ice sheets is another reason, and perhaps the most decisive, which leads to the rise of sea levels. As global atmospheric and oceanic temperatures continue to rise, glaciers, ice caps/sheets and arctic regions in general, which were previously mostly made up of ice, melt. From 2003 to 2019, Greenland and Antarctica have lost 200 and 118 gigatons of ice per year respectively[13]. As such, the most severe ramification is that the melting ice increases sea levels, and future projections predict that Earth's temperature will continue to rise, meaning that ice will gradually disappear, and oceans will occupy more space increasingly.

Whatever the cause of rising sea levels may be, it is definitely one of the most threating results of climate change. The most obvious effect is intensified flooding in coastal areas and more severe destruction during extreme weather events, which will be extremely frequent in the near future. However, as dystopic as it may sound, entire

[11] Weeman, Katie and Patrick Lynch. "New Study Finds Sea Level Rise Accelerating." *Global Climate Change: Vital Signs of the Planet*, NASA, February 13, 2018, https://climate.nasa.gov/news/2680/new-study-finds-sea-level-rise-accelerating/.

[12] Aguilera, Jasmine. "2019 Was the Second-Hottest Year Globally on Record, and Ocean Temperatures Are Hotter Than Ever." *Time.com,* Time Magazine, January 16, 2020, https://time.com/5765489/ocean-temperatures-warmest-ever/.

[13] Ramsayer, Kate. "NASA Space Laser Missions Map 16 Years of Ice Sheet Loss." Global Climate Change: Vital Signs of the Planet, NASA, April 3, 2020, https://climate.nasa.gov/news/2981/nasa-space-laser-missions-map-16-years-of-ice-sheet-loss/.

islands and coastal cities/regions disappearing because of rising sea levels is ever more plausible.

To begin with, it will threaten food and water security. As sea levels continue to rise, it is expected that saline water will intrude shores and coastlines, and therefore be absorbed by the ground. Such absorption will firstly tamper with groundwater sources, salinizing them and rendering them unsuitable for use in farming and for drinking. This salinization will also endanger crops and diminish the size of arable land. [14]

What is also important is the fact that rising sea levels may easily render large portions of land uninhabitable. This problem is naturally going to affect Small Island States most of all, as many of them are small in size and very low in height. A number of scientists fear that whole states may be sunk into the oceans.[15]

As a result of such a sea-level rise, the international community will be faced with the massive displacement that may be internal, and populations residing in coastal areas will have to move inland. Simultaneously, SIS residents, who are the most prone since their homes will disappear, will be in need of a new home. In certain cases, such as flooding, the displacement might be temporary, whereas, in other instances, such as coastal cities and islands being submerged, it will be permanent.

### Land Degradation/Desertification

Land degradation essentially refers to the gradually diminishing ability of any kind of arable land to yield produce, while in extreme cases, these lands may be entirely unsuitable for agriculture[16]. The latter phenomenon is named "desertification" and is most commonly met, and expected to occur, in what are already drylands (arid, semi-arid or sub-humid regions).

Land degradation and desertification are often attributed to a number of factors, the majority of which are human-made. Firstly, deforestation for agricultural purposes reduces the quality of the soil, as the crops used to replace the trees previously found in a deforested are not proper for that specific land[17]. Additionally, excessive irrigation from water resources (i.e. lakes and rivers) may lead to the total removal of water from such resources, leaving back degraded and desert-like land.

[14] Harvey, Chelsea. "Sea-Level Rise Will Cause More than Flooding- these 5 other Impacts of Rising Oceans Are just as Bad." *Business Insider*, Business Insider, February 18, 2015, https://www.businessinsider.com/5-terrifying-impacts-of-rising-sea-levels-2015-2.
[15] Nemat, Sadat. "Small Islands, Rising Seas." *UN Chronicle*, United Nations, https://www.un.org/en/chronicle/article/small-islands-rising-seas.
[16] "Land Degradation and Desertification." *Climate Change and Human Health*, World Health Organization, https://www.who.int/globalchange/ecosystems/desert/en/.
[17] "Soil Erosion and Degradation." *WWF*, World Wild Fund, https://www.worldwildlife.org/threats/soil-erosion-and-degradation.

Also, wildfires and over-exploitation of land are leading causes of soil erosion. To add to that, soil degradation and desertification will most likely exacerbate in the coming years due to climate change which, due to the rising global temperatures, the harsher and longer droughts and the salinization of land (caused by rising sea levels) it causes, will most certainly aggravate the issue.[18]

Approximately 40% of the world's lands are drylands[19], and these areas are thought to be the most susceptible to land degradation, due to the already harsh nature of the climate. Despite that, arable drylands, which are most commonly found in Asia and Africa, are home to 38% of the global population (or 3 billion people), who are to a large extent dependent on agriculture and the bio-productivity

of these lands. In addition, it is important to notice that these areas are some of the

poorest and most vulnerable in the world, and are already facing an array of problems, such as food/water insecurity and violent conflicts, like Boko Haram in Chad[20].

The World Atlas of Desertification (WAD) is the leading international document that reports the status of soil erosion and desertification. According to the most recent version, 75% of global land areas have already been degraded to some extent, while future projections show that by 2050, almost the entirety of arable land will have been degraded. As a result, crop yield will drop by 10% in the future, and this will most certainly jeopardize food and resource security in India, China and sub-Saharan Africa,

***Figure 2: Aerial Photograph of Lake Chad in Africa. Notice how the shrinking size of the lake leaves behind infertile land, by Hahn Jane [20]***

[18] "Special Report: Climate Change and Land." Inter-governmental Panel on Climate Change, United Nations, 2019, https://www.ipcc.ch/srccl/.
[19] Nunez, Christina. "Desertification, Explained." *National Geographic*, National Geographic, May 31, 2019, https://www.nationalgeographic.com/environment/habitats/desertification/.
[20] Stacke, Sarah. "An uncertain Future on the Shores of Africa's Vanishing Lake." National Geographic, National Geographic, May 12, 2017, https://www.nationalgeographic.com/photography/proof/2017/05/lake-chad-desertification/. (Figure 2 by Hahn Jane and found here)

regions of the world that already face a number of other various challenges, in conjunction to which, desertification can lead to the displacement of almost 700 million people[21].

### Extreme Weather Events

Natural disasters have been around for millions of years, and have been responsible for horrific destruction around the world since the beginnings of humanity. However, due to climate change, we are faced with aggravated, in number and in intensity, extreme weather events which endanger lives and therefore lead to massive displacement.

In 2017, 17.2 million were displaced due to natural disasters, a number unprecedented to humanity, with more than 90% fleeing climate-change related disasters[22]. Some of this displacement can be international, though most of it is internal, and is caused mostly by flooding, while tropical cyclones are also common. Up until recent years, displacement owed to extreme weather events was temporary with a strong tendency to return and rebuild. Today, climate change has aggravated all these issues to such an extent that in many instances destruction is so massive that the displacement may be long-term or even permanent as a return to one's homeland is not possible. In the 2010 earthquake in Haiti, 38,000 individuals remained displaced for a period of eight years[23]. Phenomena such as this will be even more frequent in the future, especially in the areas that are already exposed to climate change and its consequences.

Unsurprisingly, the regions that suffer the most due to disaster displacement are located in South and East Asia as well as in the Pacific Ocean[22]. These are areas that are expected to be impacted the most by the repercussions of climate change and are also expected to experience the harsher extreme weather events. It is crucial to remember that these are also regions in poor socio-economic circumstances, and hence the displacement that they will have to deal with, which will mostly be internal, will carry additional burdens.

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[21] "New World Atlas of Desertification Shows Unprecedented Pressure on the Planet's Natural Resources." EU Science Hub, European Union, June 21, 2018, https://ec.europa.eu/jrc/en/news/new-world-atlas-desertification-shows-unprecedented-pressure-planets-natural-resources.

[22] Anzellini, Vicente et al. "Global Disaster Displacement Risk." *Internal Displacement Monitoring Centre*, Norwegian Refugee Council, October 2017, https://www.internal-displacement.org/sites/default/files/publications/documents/201710-IDMC-Global-disaster-displacement-risk.pdf.

[23] Fuller, Patrick. "Disasters Displace More People than Conflict and Violence." United Nations Office for Disaster Risk Reduction, United Nations, February 3, 2020, https://www.undrr.org/news/disasters-displace-more-people-conflict-and-violence.

Droughts, floods, tropical storms and typhoons are all issues that cause extensive disasters and already lead millions to displacement. With climate change more present than ever, the frequency and the intensity of these events are certainly about to experience an enormous upsurge.

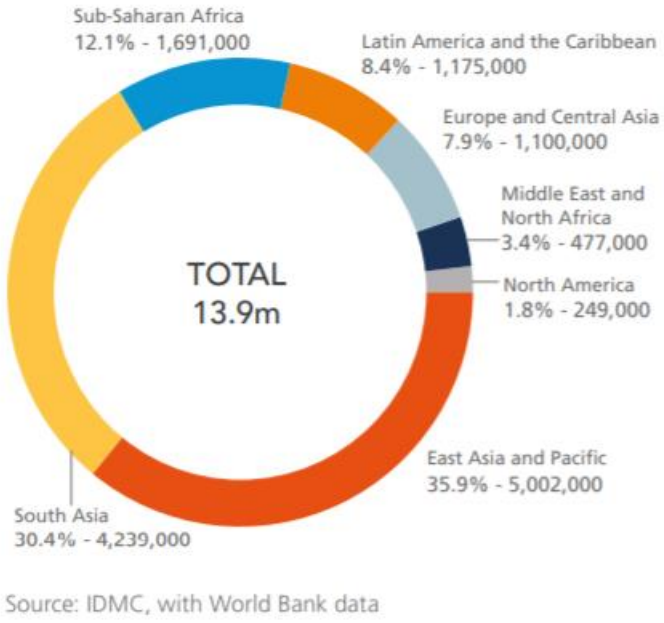


***Figure 3: The regions of their world and the number of individuals displaced due to disasters[22]***

As global temperatures continue to rise, Earth's atmosphere is becoming increasingly hot, thereby spiking the amount of energy that circulates. This expands the atmosphere's water capacity and the velocity of its movements, and as a result, floods and storms are more imminent than ever. Ocean temperatures also rise, making the evaporation of water faster and more intense.

In recent years we have seen storms, hurricanes, typhoons and tropic cyclones not only rising in number but also in intensity, with the majority of them being in the 4th or 5th intensity category.[24] These extreme weather events are able to raze entire cities to the ground, costing lives, destroying houses and endangering food and water security, phenomena not uncommon in SIDS, tropical regions and South and South-East Asia – the areas which are most vulnerable to such events. While extreme storms often lead to intense floods, these events almost exclusively occur in countries situated in susceptible regions. A phenomenon that is to have a wider effect on the planet is independent flooding. Following recent research and events, it is likely that areas of the North Atlantic should expect a significant rise in severely aggravated and more frequent hydro-meteorological events.[25] Flooding will be even more so destructive in low-lying and/or coastal areas and in floodplains. As global atmospheric and oceanic temperatures continue to rise, mostly owing to the spiked carbon emissions, events such as extreme flooding will be common as ever. Part of it can also

[24] Berardelli, Jeff. "How Climate Change is Making Hurricanes more Dangerous." Yale Climate Connections, Yale University, July 8, 2019, https://www.yaleclimateconnections.org/2019/07/how-climate-change-is-making-hurricanes-more-dangerous/.

[25] "How Climate Change is Making Record-Breaking Floods the New Normal." UN Environment Programme, United Nations, March 3, 2020, https://www.unenvironment.org/news-and-stories/story/how-climate-change-making-record-breaking-floods-new-normal.

be considered as the rise of sea levels. Thus, flooding may in some cases be permanent, in which case, whole regions would be sunk in water. Both floods and storms will be the reason for massive internal or external displacement, which will continue to grow as well. People will be forced to either become IDP's or refugees, as their homes will be destroyed, they will be out of a job, and in many cases, water resources will be limited or non-existent, while arable land will diminish or disappear entirely.

Furthermore, a growing number of regions will experience longer, and harsher droughts due to climate change. The rise in global temperatures tremendously accelerates the rate at which moisture evaporates from normal or underground water sources. Vegetation is also put at risk and destroyed due to higher temperatures. These two factors not only reduce the quality of the soil, but they also reduce the amount of water available to a region. As a result, more regions will suffer from droughts for longer periods of time, which will reduce the accessibility of people to adequate water resources and will harm agriculture[26]. Consequently, food and water resources will be endangered, which will lead to massive migration, as seen in Somalia in the recent past[27]. In 2006 there were approximately 400.000 climate change-driven IDP's, while this number rose to 1 million in 2007.

### Resource Security Endangered

On the whole, climate change and its effects will result in forced migration not only due to the enormous physical destruction they will cause, but also owing to resource insecurity, from which a growing number of people and areas are expected to suffer.

Agriculture will be one of the first domains that climate change will hurt. Rising sea levels will physically reduce the size of arable land available, while the remaining land will lose its ability to yield crops to the extent needed so as to cover the demands of the region, which depends upon the agriculture of the land for food security. Constant heatwaves and droughts, combined with the frequent intrusion of saline water on land because of floods, severely degrade the quality of arable land and therefore diminish its ability to yield produce. Additionally, the changing precipitation patterns, as well as the rising global temperatures, tamper with the abilities of plants and crops to grow properly. Naturally, damaged agriculture is unable to cover the

[26] "The Facts about Climate Change and Drought." The Climate Reality Project, The Climate Reality Project, June 15, 2016, https://www.climaterealityproject.org/blog/facts-about-climate-change-and-drought.

[27] Lindley, Anna. "Questioning 'Drought displacement': Environment Politics and Migration in Somalia." Forced Migration Review, Forced Migration, February 2014, https://www.fmreview.org/sites/fmr/files/FMRdownloads/en/crisis/lindley.pdf.

needs in food in the affected areas, and this will lead the residents of this area who depend on agriculture, not only for food but also for a living.

What is more, freshwater availability is also expected to drop by up to 20% to 30% in certain regions. Water will be salinized due to floods and rising sea levels; it will evaporate quickly due to the heightened global temperatures and the already limited water resources will disappear due to the longer and more frequent droughts which are expected to occur. It is expected that by 2040, 1 in 4 children worldwide will find themselves in high water distress, while countries somehow facing water shortage are home to almost 2 billion people. When considering the fact that populations are expected to grow, the issue of water insecurity is going to be aggravated[28]. The Middle East is, in fact, expected to be the region most seriously affected by the water crises that are expected to occur due to climate change. As Figure 4[29] shows, even though the Middle East is by far the most endangered area of the world, India is the country where the water crisis will have an impact on most people. It is important to note that most of these areas are already stricken by other hardships, such as wars and other violent conflicts.

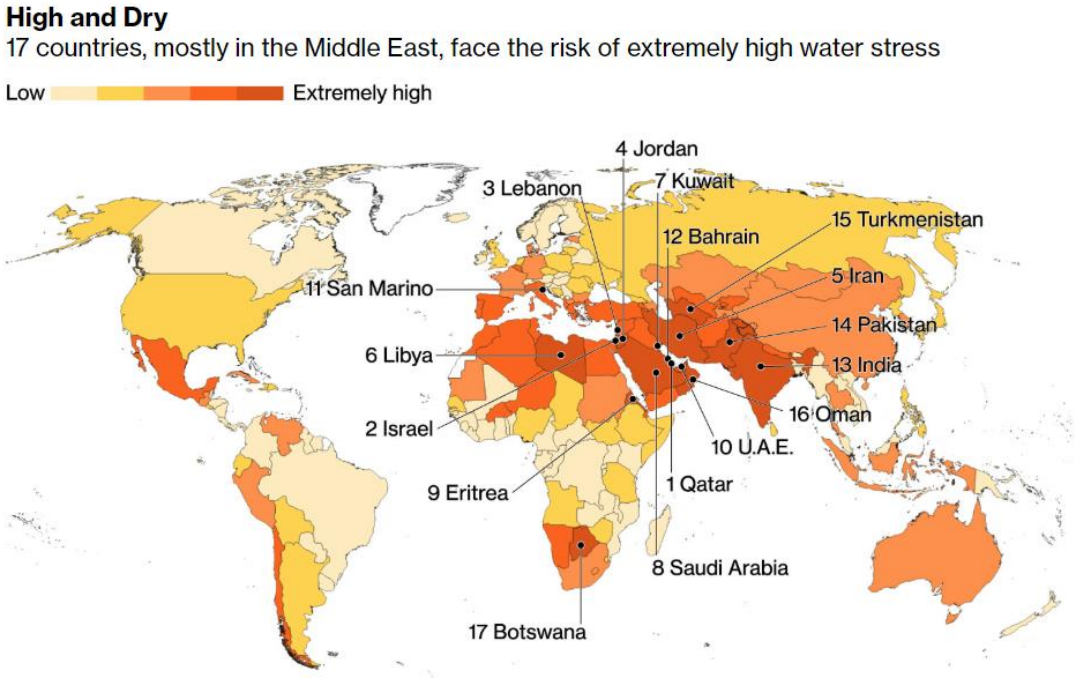


***Figure 4: Map depicting the most endangered by water shortages areas around the world. Obviously, water crises are going to affect a multitude of areas.***

[28] "Water and Climate Change." UN WATER, United Nations, https://www.unwater.org/water-facts/climate-change/.

[29] Dormido, Hannah. "These Countries Are the Most at Risk from a Water Crisis." Bloomberg, Bloomberg, August 6, 2019, https://www.bloomberg.com/graphics/2019-countries-facing-water-crisis/.

Water and food insecurity are some of the leading causes of climate change-led displacement. Millions of people will flee the unlivable circumstances in their countries shaped by climate change. Resource insecurity will, of course, push people to migration on their own accord, but it will also trigger violent conflicts over the remaining resources, which will also cause massive displacement. Areas where resources are already limited, e.g. the Middle East and North Africa, will be the ones that will see the most violent conflicts over the limited sources of food and water.

### The Legal Challenge

The 1951 Refugee Convention, which constitutes the basis for refugee law around the world, strictly defines a refugee as people who have left their homes for "fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion". Any person who can be characterized as a refugee according to the above definition is entitled to a number of rights, as the Convention stipulates. They must be protected by the state in which they have found refuge, and it must provide adequate food, water and education to them, while of course adhering the policy of non-refoulement and providing asylum to asylum-seekers. Apart from rights, a number of frameworks and guidelines exist for governments, guiding them on how to handle refugees[30].

Naturally, climate-related refugees cannot be officially considered as refugees, as the cause of their displacement is not recognized by the definition of a refugee. Consequently, such environmental refugees may not enjoy the same rights, especially in states where refugees are openly not welcome. This definitional discrepancy may typically allow states that do not wish to receive refugees, to prevent their entrance in the country. Even in cases where climate-caused displaced individuals are accepted in a country, as is expected by relevant experts, the approach as to how to handle them is not specific. In certain cases, though, if climate-related factors are interlinked with conflict or persecution, such as in the case of strife over resources, or when climate-related displacement is accompanied by a severe disruption of public order, climate refugees may be recognized as refugees[31].

Up to date, there have been few instances where displacement was caused solely by climate change-related factors. Such cases can be found in the SIDS of the Pacific Ocean, where at least eight islands have already been submerged by the quickly

[30] "Convention Relating to the Status of Refugees." United Nations Office of the High Commissioner on Human Rights, United Nations, July 28, 1951, https://www.ohchr.org/EN/ProfessionalInterest/Pages/StatusOfRefugees.aspx.
[31] "The Slow Onset Effects of Climate Change and Human Rights Protection for Cross-Border Migrants." Office of the High Commissioner for Human Rights, United Nations, 2018, https://disasterdisplacement.org/portfolio-item/slow-onset.

rising sea levels and have prompted waves of migration. For these people, there is no clear legal framework[32].

### The Affected Regions

South Asia will experience major shifts in the internal and international migration patterns as the rising global temperatures will melt glaciers that will lead to a rise in sea levels, but it will increase the amounts of water that rivers will contain. As a result, these areas will suffer from severe flooding of river systems, notably the ones that originate from glaciers. In addition, cyclones will be more common than ever, causing even more intense destruction. All these climate change-related incidents will further diminish the already low quality of life in the majority of South Asia, which will definitely prompt massive displacement waves, especially when considering the fact that a number of large urban centers are located next to a river or in low-lying coastal regions. Up to 800 million could suffer because of climate change[31]. It is considered to be the region that will perhaps suffer the most from climate-related migration, as six out of the ten mega-cities in Asia are not only located in South Asia but are situated in coastal and/or low-lying areas[33].

***Figure 5: Girls crossing bamboo bridges on the island of Katubidia in Bangladesh, where rising sea levels has already appeared and affected the locals to a great extent. Water has already intruded in the land[1]***

[32] Podesta, John. "The Climate Crisis, Migration, and Refugees." Brookings, Brookings, July 25, 2019, https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/.
[33] Brown, Oli. "Migration and Climate Change." IOM, United Nations, file:///C:/Users/user/Downloads/5866%20(2).pdf.

Middle East and North Africa (MENA) is one of the regions that is already observing the staggering effects of climate change. This part of the world has been suffering from droughts and heatwaves for hundreds of years now. The projected rise in global temperatures is, however, believed to be at the root of extreme and prolonged droughts lasting for months at best. Populations in areas not capable of handling such a challenge will forcibly migrate; and these are large numbers, considering that conflict is existent. In the region, millions of people are dependent on agriculture which out of some small pieces of arable land sustains them. The expected desertification will, of course, eradicate such agricultural activity, leaving millions of people without a means for economic survival, which will also lead people to migration[34].

The Sahel and West Africa are exposed not only to the severe droughts that will occur more frequently, but also to the desertification that will render arable land useless, and to the rising sea levels that will force large portions of land to disappearance[32]. In these areas there are at least 50 million people depend on livestock for their livelihood, and an equally large size of the population relies on agriculture. These two activities will cease to exist in these areas, and they will be left with no other option but to migrate. The issue might be more apparent in these regions are there are already severe and violent conflicts, which will be amplified due to resource insecurity[35].

Above all other areas of the world, SIDS are the most vulnerable. They are quite literally on the brink of extinction, and their residents will necessarily have to relocate permanently to other areas. This displacement has no historical or legal precedent, and it is a challenge to which humanity has no response. In Tuvalu, one of the most endangered states of the world, two out of the nine islands that consist it, have already been submerged[36].

***Figure 6: In Kiribati, the sea level slowly rises and hence inflicts frequent and very strong floods***

[34] Frangoul, Anmar. "Climate Change would Make North Africa and Middle East 'uninhabitable'." CNBC, CNBC, May 4, 2016, https://www.cnbc.com/2016/05/04/climate-change-could-make-north-africa-and-middle-east-uninhabitable.html.

[35] Arcanjo, Marcus. "Risk and Resilience: Climate Change and Instability in the Sahel." Climate Institute, the Climate Institute, October 24, 2019, http://climate.org/risk-and-resilience-climate-change-and-instability-in-the-sahel/.

[36] Ainge-Roy, Eleanor. "'One Day We'll Disappear': Tuvalu's Sinking Islands." Guardian, The Guardian, May 16, 2019, https://www.theguardian.com/global-development/2019/may/16/one-day-disappear-tuvalu-sinking-islands-rising-seas-climate-change.

## MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

### United Nations High Commission on Refugees (UNHCR)

The UNHCR is perhaps the most active international body when it comes to dealing with issues related to refugees. It provides humanitarian, economic and institutional support to states that are in need of them due to migration crises that take place. Recently, it has become active in the field on climate-induced migration, offering legal advice in addition to its other services.

### International Organization for Migration (IOM)

IOM is another major international body that deals with matters regarding migration in general. In the field of environmental migration, it has been very active, by providing frameworks for policy-makers, measures to enhance resilience and other kinds of support to the most affected regions.

### International Panel on Climate Change (IPCC)

The IPCC is the main UN body charged with assessing the climate and the status of the climate crisis. By issuing their assessment reports, it scientifically describes the circumstances when it comes to climate change, makes future projections, and offers plausible solutions. It has in the past made small mentions to the issue of climate displacement.

### United Nations Environmental Program

It is essentially the UN body that aims at facing the effects of climate change. It is most active in matters regarding climate change impacts, though it has until very recently discarded the issue of climate refugees.

## TIMELINE OF EVENTS

| Date | Description of event |
|---|---|
| 1951 | The UN Convention Relating to the Status of Refugees is adopted. |
| 1988 | Creation of the IPCC by UNEP and the World Meteorological Organization. |
| 1990 | The IPCC report highlights that climate change will cause massive migration. |
| 1992 | The UNFCCC is signed. |

| | |
|---|---|
| 1997 | The Kyoto Protocol is signed. |
| 1998 | The Guiding Principles on Internal Displacement are adopted. |
| Early 21st century | The concept of climate change-led migration is introduced. |
| 2005 | Hurricane Katrina forces more than 1 million people to displacement in the USA alone. |
| 2015 | The Migration, Environment and Climate Change (MECC) division of the IOM is created. |

## RELEVANT RESOLUTIONS, TREATIES AND EVENTS

### United Nations Convention to Combat Desertification (UNCCD)[37]

It is the sole international body that deals with the environment and land. Signed in 1994, the Convention founded an organization under the same name that aims at achieving Land Degradation Neutrality, in order to protect the 1.3 billion people whose livelihoods are endangered by climate change.

### Guiding Principles on Internal Displacement[38]

In 1998 a set of 30 different principles on how to handle IDP was created, and the UN General Assembly has recognized them as of paramount importance. These explain in detail how to treat IDP's, and they include environmental reasons as plausible causes for internal displacement.

### Convention Relating to the Status of Refugees[39]

In 1951, the Convention was signed in Geneva, and it is now the most basic and universally accepted legal document referring to refugees. It outlined states'

[37] "About the Convention." UNCCD, United Nations, https://www.unccd.int/convention/about-convention.
[38] "Guiding Principles on Internal Displacement." Internal Displacement Monitoring Centre, Norwegian Refugee Council, https://www.internal-displacement.org/internal-displacement/guiding-principles-on-internal-displacement.
[39] "The 1951 Refugee Convention." UNHCR, United Nations, https://www.unhcr.org/1951-refugee-convention.html.

obligations towards refugees, as well as the latter's rights. Some contend though that the document is not sufficient for the complex 21st-century world.

### United Nations Framework on Climate Change [40]

In 1992, the first near-universally accepted scientific and legal document defining states' responsibilities when it comes to carbon emission was drafted and signed. The UNFCC is the first document that guides states on how to reduce carbon emissions and how to build resilience to its certain effects.

### Global Compact for Migration[41]

It is perhaps the most recent intergovernmental agreement related to matters that have to do with migration, signed only in 2018. It is also the first one to cover migration in all of its manifestations. It officially includes in its clauses measures to tackle environmental migration and the adverse circumstances caused by climate change that lead to it.

## PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

One of the most common, though nor drastic, solution is responding well to climate catastrophes such as floods, hurricanes and cyclones. For instance, in 2019, UNCHR relocated residents of Mozambique, Zimbabwe and Malawi when the tropic cyclone Idai hit these areas. It also provided them with food, tents, water and other subsistence[3]. Obviously, this is not a viable solution, for it does not treat the root of the problem.

A more sustainable approach is building resilience to climate change-disaster prone areas. A prime example can be found in Cuba, which even though lies in a part of the world often hit by hurricanes, suffers significantly less from them, due to careful preparations, efficient early warning systems and nation-wide storm awareness[33].

Climate-smart Agriculture (CSA) is a method to ensure food security in the areas that are most affected by land degradation and desertification (i.e. West Africa). In these areas, international organization, such as the World Bank, train farmers to implement smarter farming practices designed to maximize production, especially under adversity[42].

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[40] "UNFCC." Department of Communications, Climate Action and Environment, Government of Ireland, https://www.dccae.gov.ie/en-ie/climate-action/topics/eu-and-international-climate-action/unfccc/Pages/default.aspx.

[41] "Global Compact for Migration." UN Refugees and Migrants, United Nations, https://refugeesmigrants.un.org/migration-compact.

[42] "This Is What It's All About: Building Resilience and Adapting to Climate Change in Africa." World Bank, The World Bank, March 7, 2019,

Regarding the less-affected countries, where climate-induced displacement is expected to head to, action has been surprisingly limited. Some practices may be altered towards integrating these people. New Zealand, for instance, accepts 75 Tuvaluans each year, and it is hoped that this practice will develop so as to accommodate more refugees if and when Tuvalu is uninhabitable. Sweden is another country that has taken major steps towards the integration of environmental migrants. Its refugee policy recognizes them as persons that are in need of protection. It only takes into account, however, the displacement originating from some climate disaster[33].

## POSSIBLE SOLUTIONS

Firstly, states could regional and sub-regional cooperation on climate-fueled displacement could alleviate challenges posed in the future since the majority of the cross-border migration will be directed towards neighboring states.

Secondly, redefining the concept of a refugee and reassessing the existing guidelines on how to handle migration waves could potentially ensure the protection of the rights of person displaced due to climate change.

In addition, building better infrastructure in the regions that are expected to suffer the most could reduce the risk in which these areas find themselves following a detrimental climate catastrophe

Through promoting agricultural reform, governments could fight food insecurity in the most susceptible areas, and it would ensure to some extent the economic stability of farmers who depend on agriculture.

Lastly, by building more sustainable water management systems, especially in states that are threatened by water insecurity, states would improve the living conditions of person residing in these areas in the future.

## BIBLIOGRAPHY

"About the Convention." UNCCD, United Nations, https://www.unccd.int/convention/about-convention.

Aguilera, Jasmine. "2019 Was the Second-Hottest Year Globally on Record, and Ocean Temperatures Are Hotter Than Ever." Time.com, Time Magazine, January 16, 2020, https://time.com/5765489/ocean-temperatures-warmest-ever/.

https://www.worldbank.org/en/news/feature/2019/03/07/this-is-what-its-all-about-building-resilience-and-adapting-to-climate-change-in-africa.

Ainge-Roy, Eleanor. "'One Day We'll Disappear': Tuvalu's Sinking Islands." Guardian, The Guardian, May 16, 2019, https://www.theguardian.com/global-development/2019/may/16/one-day-disappear-tuvalu-sinking-islands-rising-seas-climate-change.

Anzellini, Vicente et al. "Global Disaster Displacement Risk." Internal Displacement Monitoring Centre, Norwegian Refugee Council, October 2017, https://www.internaldisplacement.org/sites/default/files/publications/documents/201710-IDMC-Global-disaster-displacement-risk.pdf.

Arcanjo, Marcus. "Risk and Resilience: Climate Change and Instability in the Sahel." Climate Institute, the Climate Institute, October 24, 2019, http://climate.org/risk-and-resilience-climate-change-and-instability-in-the-sahel/.

Berardelli, Jeff. "How Climate Change is Making Hurricanes more Dangerous." Yale Climate Connections, Yale University, July 8, 2019, https://www.yaleclimateconnections.org/2019/07/how-climate-change-is-making-hurricanes-more-dangerous/.

Brown, Oli. "Migration and Climate Change." IOM, United Nations, file:///C:/Users/user/Downloads/5866%20(2).pdf.

"Background Guide: Climate Change and Displacement." UNCHR.org, United Nations High Commission on Refugees, https://www.unhcr.org/5df9f01b4.

"Climate Change." Cambridge English Dictionary, Cambridge University Press, https://dictionary.cambridge.org/dictionary/english/climate-change.

"Convention Relating to the Status of Refugees." United Nations Office of the High Commissioner on Human Rights, United Nations, July 28, 1951, https://www.ohchr.org/EN/ProfessionalInterest/Pages/StatusOfRefugees.aspx.

Dormido, Hannah. "These Countries Are the Most at Risk from a Water Crisis." Bloomberg, Bloomberg, August 6, 2019, https://www.bloomberg.com/graphics/2019-countries-facing-water-crisis/.

Frangoul, Anmar. "Climate Change would Make North Africa and Middle East 'uninhabitable'." CNBC, CNBC, May 4, 2016, https://www.cnbc.com/2016/05/04/climate-change-could-make-north-africa-and-middle-east-uninhabitable.html.

Fuller, Patrick. "Disasters Displace More People than Conflict and Violence." United Nations Office for Disaster Risk Reduction, United Nations, February 3, 2020,

https://www.undrr.org/news/disasters-displace-more-people-conflict-and-violence.

"Global Compact for Migration." UN Refugees and Migrants, United Nations, https://refugeesmigrants.un.org/migration-compact.

"Guiding Principles on Internal Displacement." Internal Displacement Monitoring Centre, Norwegian Refugee Council, https://www.internal-displacement.org/internal-displacement/guiding-principles-on-internal-displacement.

Harvey, Chelsea. "Sea-Level Rise Will Cause More than Flooding- these 5 other Impacts of Rising Oceans Are just as Bad." Business Insider, Business Insider, February 18, 2015, https://www.businessinsider.com/5-terrifying-impacts-of-rising-sea-levels-2015-2.

"How Climate Change is Making Record-Breaking Floods the New Normal." UN Environment Programme, United Nations, March 3, 2020, https://www.unenvironment.org/news-and-stories/story/how-climate-change-making-record-breaking-floods-new-normal.

Huq Omi, Saiful. "Frequently asked questions on climate change and disaster displacement." UNCHR, United Nations, https://www.unhcr.org/en-us/news/latest/2016/11/581f52dc4/frequently-asked-questions-climate-change-disaster-displacement.html.

"Internally Displaced Person." European Commission: Migration and Home Affairs, European Commission, https://ec.europa.eu/home-affairs/what-wedo/networks/european_migration_network/glossary_search/internally-displaced-person_en.

"Land Degradation and Desertification." Climate Change and Human Health, World Health Organization, https://www.who.int/globalchange/ecosystems/desert/en/.

Lindley, Anna. "Questioning 'Drought displacement': Environment Politics and Migration in Somalia." Forced Migration Review, Forced Migration, February 2014, https://www.fmreview.org/sites/fmr/files/FMRdownloads/en/crisis/lindley.pdf.

Nemat, Sadat. "Small Islands, Rising Seas." UN Chronicle, United Nations, https://www.un.org/en/chronicle/article/small-islands-rising-seas.

"New World Atlas of Desertification Shows Unprecedented Pressure on the Planet's Natural Resources." EU Science Hub, European Union, June 21, 2018, https://ec.europa.eu/jrc/en/news/new-world-atlas-desertification-shows-unprecedented-pressure-planets-natural-resources.

Nunez, Christina. "Desertification, Explained." National Geographic, National Geographic, May 31, 2019, https://www.nationalgeographic.com/environment/habitats/desertification/.

Nunez, Christina. "Sea Level Rise, Explained." National Geographic, National Geographic, February 19, 2019, https://www.nationalgeographic.com/environment/global-warming/sea-level-rise/.

Podesta, John. "The Climate Crisis, Migration, and Refugees." Brookings, Brookings, July 25, 2019, https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/.

Rafferty, John and Stuart Pimm. "Desertification." Encyclopædia Britannica, Encyclopaedia Britannica, Inc., January 29,2020, https://www.britannica.com/science/desertification.

Ramsayer, Kate. "NASA Space Laser Missions Map 16 Years of Ice Sheet Loss." Global Climate Change: Vital Signs of the Planet, NASA, April 3, 2020, https://climate.nasa.gov/news/2981/nasa-space-laser-missions-map-16-years-of-ice-sheet-loss/.

Renaud, Fabrice et al. "Environmental Degradation and Migration." Berlin Institute for Population and Development, https://web.archive.org/web/20160705141123/http://www.berlin-institut.org/fileadmin/user_upload/handbuch_texte/pdf_Renaud_Environmental.pdf.

"Soil Erosion and Degradation." WWF, World Wild Fund, https://www.worldwildlife.org/threats/soil-erosion-and-degradation.

"Special Report: Climate Change and Land." Inter-governmental Panel on Climate Change, United Nations, 2019, https://www.ipcc.ch/srccl/.

Stacke, Sarah. "An uncertain Future on the Shores of Africa's Vanishing Lake." National Geographic, National Geographic, May 12, 2017, https://www.nationalgeographic.com/photography/proof/2017/05/lake-chad-desertification/.

"The 1951 Refugee Convention." UNHCR, United Nations, https://www.unhcr.org/1951-refugee-convention.html.

"The Concept of 'Climate Refugee': Towards a Possible Definition." European Parliament, European Union, February 2019, https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621893/EPRS_BRI(2018)621893_EN.pf.

"The Effects of Climate Change." NASA.gov, US National Aeronautics and Space Administration, 30 Sept. 2019, www.climate.nasa.gov/effects/.

"The Facts about Climate Change and Drought." The Climate Reality Project, The Climate Reality Project, June 15, 2016, https://www.climaterealityproject.org/blog/facts-about-climate-change-and-drought.

"The Slow Onset Effects of Climate Change and Human Rights Protection for Cross-Border Migrants." Office of the High Commissioner for Human Rights, United Nations, 2018, https://disasterdisplacement.org/portfolio-item/slow-onset.

"This Is What It's All About: Building Resilience and Adapting to Climate Change in Africa." World Bank, The World Bank, March 7, 2019, https://www.worldbank.org/en/news/feature/2019/03/07/this-is-what-its-all-about-building-resilience-and-adapting-to-climate-change-in-africa.

"UNFCC." Department of Communications, Climate Action and Environment, Government of Ireland, https://www.dccae.gov.ie/en-ie/climate-action/topics/eu-and-international-climate-action/unfccc/Pages/default.aspx.

"Water and Climate Change." UN WATER, United Nations, https://www.unwater.org/water-facts/climate-change/.

Weeman, Katie and Patrick Lynch. "New Study Finds Sea Level Rise Accelerating." Global Climate Change: Vital Signs of the Planet, NASA, February 13, 2018, https://climate.nasa.gov/news/2680/new-study-finds-sea-level-rise-accelerating/.