

RED CEDAR MODEL UNITED NATIONS  
SESSION IX



World  
Meteorological  
Organization

Chair: Emily Douponce

Assistant Chairs: Natalie Del Vecchio, Catherine Russell,  
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Delegates,

Welcome to the World Meteorological Organization Committee for RCMUN IX! I am very excited to be your chair this year as we discuss two topics that have great significance in Africa and the Middle East today. Those topics are climate change and water scarcity!

My name is Emily and I am a sophomore studying Political Science/Prelaw with a minor in Law, Justice, and Public Policy. This is only my second year doing MUN. Last year was my first year of MSUMUN and Model UN by assistant chairing the Food and Agriculture Organization. Outside of MSUMUN, I am also a member of the Michigan State University Pompon Team! When I happen to get some free time, it's normally spent with my roommate watching a horror movie, (failing at) baking pies with my friends, or spending time with my dogs.

I am also very excited to introduce assistant chairs; Natalie Del Vecchio, Catherine Russell, and Sara Siddiqui!

My name is Natalie and I'm a sophomore studying Political Science and minoring in Science, Technology, and Environmental Public Policy. I participated in Model UN during high school and attended conferences like GLIMUN and MSUMUN. This will be my second-year chairing at MSUMUN. A fun fact about me is that I work at Target.

My name is Catherine and I am a sophomore at James Madison College where I study Comparative Cultures and Politics (CCP). I'm also an Irish Dancer! I have performed at the Mid-American Regional Championship (Oireachtas) for the past two years as well as competitions and outreach dancing. I am very excited to see what solutions you come up with!

My name is Sara and I am a freshman at the James Madison College. I am majoring in International Relations as well as Social Relations and Policy and minoring in Spanish. I competed in Model UN throughout high school and is excited to be participating once again. A fun fact about me is that I love crime shows!

If you have any questions or concerns about the topics, the committee, or MSUMUN in general, please do not hesitate to email us. We look forward to making this 20th year the best one yet!

Sincerely,  
Emily Douponce  
Chair, World Meteorological Organization  
[ga5@msumun.org](mailto:ga5@msumun.org)

# Topic A: Climate Change

## Introduction

*What is Climate Change?*

Climate Change is both a natural change in global climate and an artificial one caused by the release of CO<sub>2</sub> and other greenhouse gasses. This is mostly caused by human development. Climate is defined as “a statistically significant variation in either the mean state of the climate, or in its variability, persisting for an extended period (typically decades or longer)”<sup>1</sup>. This is saying that climate change is something that has always been on planet Earth. However, according to article 1 of the Framework Convention on Climate Change (UNFCCC), climate change is defined as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods”<sup>2</sup>.

In order to differentiate between natural and artificial climate change, the UNFCCC has two separate definitions for changes in global climate. Any natural change in climate is known as climate variability, while anything attributed to humans is what is called climate change<sup>3</sup>. The term is usually used in a negative light, especially when being used to describe a phenomenon, such as a drought or overall rising temperatures due to human activity in a specific area or region of the world. Climate change can be caused by CO<sub>2</sub> emissions, as well as other human agents.

## History

*The World*

Climate change is something that has always been around on earth and always will be. By definition, it is the “average weather conditions for a particular location and over a long period of time”<sup>4</sup>. These ideas date all the way back to ancient Greek times, when people were suggesting that activities such as chopping down trees could influence temperatures and precipitation. From then, it took experts many years of research to get the attention of the scientific community and warn them of human effects on climate change.

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<sup>1</sup> “Frequently Asked Questions (FAQ),” World Meteorological Organization, accessed 15 November, 2019.

<sup>2</sup> World, “Frequently Asked Questions (FAQ)”

<sup>3</sup> World, “Frequently Asked Questions (FAQ)”

<sup>4</sup> “Climate”, World Meteorological Organization, accessed November 14, 2019.

In the early 1800s, the idea of man-made CO<sub>2</sub> in the atmosphere was introduced. A physicist by the name of Joseph Fourier proposed the idea that the earth's atmosphere acts the way a greenhouse does by trapping energy, thus creating the greenhouse effect. In the 1930s, scientists were starting to think that carbon emissions could already be having a warming effect on the earth. By the 1950s, the first evidence leading to the theory of global warming had surfaced after some unusually high CO<sub>2</sub> readings were collected. Around the 1980s, the earth's global temperature dramatically spiked, causing a new level of concern. 1988's summer was the hottest on record<sup>5</sup>.

After this, the public and the media began to start paying attention to the global warming that was now clearly upon us. Leaders around the world began to discuss potential solutions for the issue and ways to mitigate the effects as much as possible. The first global agreement on the reduction of greenhouse gas emissions was the Kyoto Protocol in 1997, which called for greenhouse gas emission reduction in 41 countries. Since then, the Paris Climate Agreement has been introduced, in which targets to reduce greenhouse gas emissions have been set by 195 countries. In addition to global agreements, many organizations have been created or switched their focus to combat environmental issues such as climate change. Some of these organizations include the Climate Action Network, UN Green Climate Fund, UNEP, FAO, Environmental Defense Fund, and WMO. WMO was founded in 1950 in order to help its members "monitor the Earth's climate on a global scale so that reliable information is available to support evidence-based decision-making on how to best adapt to a changing climate and manage risks associated with climate variability and extremes."<sup>6</sup>

Eventually, more of the causes of climate change became known to the public, and definitions of things like greenhouse gases and ozone became more specific. According to WMO, ozone "acts as a shield protecting us against ultraviolet radiation from the sun. However, ozone at the ground level is a pollutant"<sup>7</sup>. With the developing complexity of definitions has also come the development of major issues. Today, nearly every region of earth has been impacted in some way, shape, or form by climate change. We are seeing things like melting ice caps, rising sea levels, disease, extinction of species, resource depletion, and displaced refugees. Unfortunately, poorer nations are being hit the hardest and are in regions that are more likely to experience worse effects.

Today, climate change is a phrase that is seen constantly in the media, and we are seeing more and more activism against it. As good as the high amounts of activism are, the issues are still growing worse by the day and we are running out of time.

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<sup>5</sup> "Climate Change History", history.com editors, published October 6, 2017.

<sup>6</sup> "Climate", World Meteorological Organization, accessed November 14, 2019.

<sup>7</sup> "Greenhouse Gases", World Meteorological Organization, published December 13, 2017.



## Current Issues

### *The Middle East*

Evidence shows that the Middle East is the region of Earth that is hit hardest by climate change. Temperatures in the summer across the region are due to increase by more than twice that of the global average<sup>8</sup>. The Middle East seems like it could have some sustainable areas, as it is home to many large rivers such as the Tigris and Euphrates. However, experts have predicted that these rivers could disappear within the century. This would remove the homes of more than 23 million people. The Nile is also at risk of having its flow disrupted. This would impact a dam that supplies water to almost 100 million people. With long heat waves, desertification, rising sea levels in the Mediterranean, flooding in the desert, and droughts, much of the Middle East could soon be completely inhabitable. However, in the parts that are still livable, life will not be much better due to potential violence and unrest over competition for the low amount of resources. The governments in this region and their international allies have made little progress in coming up with strategies to mitigate these potential conflicts. Foreign assistance is often needed in the Middle East and donors will have to increase their efforts for humanitarian disaster and government aid soon.

A region of the Middle East that has been greatly impacted by climate-change induced civil unrest is Syria. An ongoing drought that began in 2002 pushed rural farmers into urban areas, creating political unrest in the population. Economic issues were created, which lead President Bashar al-Assad to increase “privatization” efforts that caused inequality amongst the rural communities.<sup>9</sup>

### *Africa*

Western Africa has been defined as an extremely vulnerable area for climate change, with temperature increases predicted to be 1.5 times higher than the rest of the world<sup>10</sup>. Specifically, it has a higher likelihood of reducing the production of crops and yields. The Sahel region, which includes several west African nations, such as Niger and Mali, is considered to be at the area most affected by climate change in the world<sup>11</sup>. The region is heavily reliant on crops that require rainfall in order to thrive. However, it is also prone to droughts and flooding, which leaves the Sahel food security irregular<sup>12</sup>.

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<sup>8</sup> Saha, Sagatom. “How Climate Change Could Exacerbate Conflict in the Middle East.” Atlantic Council. Atlantic Council, August 19, 2019.

<sup>9</sup> Broom, Douglas. “How the Middle East Is Suffering on the Front Lines of Climate Change.”, Broom, Douglas, published April 5th, 2019

<sup>10</sup> “Climate Change Risk Profile: West Africa Sahel,” USAID, accessed 13 November, 2019.

<sup>11</sup> Shepard, Dan, “Global”.

<sup>12</sup> Shepard, Dan, “Global”.

Food security is not the only issue that west Africa has due to climate change. Due to the rapidly increasing population of the region, more and more resources are becoming scarce, which is leading to social issues. The Sahel region of Africa, as of late 2018 and early 2019 has an estimated population growth of 2.8% per year, with approximately 300 million people affected by climate change and 25 million people who require humanitarian assistance<sup>13</sup>. This has caused a lack of natural resources as well as food and land. This, in hand, leads to conflicts between cattle herders and crop farmers.

This topic is relevant because the people in the Sahel region, and particularly in the western part of the sub region, are facing drought that devastates crop production and yield each year, making food more scarce. This aids in the political instability in the region, which could lead to further conflicts between nations in the sub region in the future.

## **Current Positions**

### *The Middle East*

Although the Middle East is behind in combating climate change, there are a few organizations that have been able to provide support. The World Bank is working to increase efforts in areas such as infrastructure investment, knowledge strengthening, and policy reform in the Middle East. An increasing level of awareness is building among stakeholders in the region on the significance of climate change, reflecting both the global increase in awareness, as well as mounting concerns in the region about increasingly frequent droughts and a looming water supply shortage. While ultimately, effective adaptation to climate change will depend on countries' commitment, the Bank has a key role to play in mainstreaming adaptation measures in the region's development agenda.<sup>14</sup> Other organizations, like the United Nations Framework Convention on Climate Change have introduced an "Adaptation Fund" to help struggling countries adapt to climate change and greenhouse gas emissions.

### *Africa*

Most of the work that has been done to cope with climate change in the region has been by farmers in the area, strategizing how to keep their crops and livestock alive. The WMO has also created a regional project that is currently ongoing in the western region of the Sahel. It is called the Climate Services for Increased Resilience in the Sahel, and it has donors contributing such as the Norwegian Refugee Council, US Agency for International Development/Office of US

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<sup>13</sup> Shepard, Dan, "Global".

<sup>14</sup> "Adaptation to Climate Change in the Middle East and North Africa Region." World Bank, accessed November 16, 2019.

Foreign Disaster Assistance. The Climate Services for Increased Resilience in the Sahel also has several partners including the African Center of Meteorological Application for Development, Food and Agriculture Organization of the United Nations, National Oceanic and Atmospheric Administration, and the Norwegian Refugee Council<sup>15</sup>.

## **Resolution**

Although the world is seeing an increase in efforts to combat climate change, it is something that is still impacting every region of earth in some way. Regions like the Middle East and Africa are suffering worse consequences than the rest of the world. The goal of this committee is to reevaluate the plans, goals, priorities, and steps already taken by the World Meteorological Organization on the way to combating climate change. The World Meteorological Organization has extensively researched climate science, and it is now up to your countries to put policies behind the science and work towards mitigating the various environmental, social, and economic problems in the world. We have been warned that we are running out of time, so it is crucial that we as global leaders work together to create a successful plan.

## **Questions to consider**

- How has climate change impacted your country?
- Does your country experience more social, economic, or environmental issues as a result of climate change?
- What has your country already done to combat climate change?
- Is this a priority in your country?
- Who should be most involved in assisting countries in need?
- Has your country aided with food supply or combating climate change in another region?
- Has your country received any previous aid for climate change related problem/s?
- Is your country a part of any organizations or treaties involving climate change?

## **Useful links**

- <https://public.wmo.int/en/our-mandate/focus-areas/environment>
- <https://eos.org/scientific-press/study-global-warming-hits-poorest-nations-hardest>

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<sup>15</sup> “Climate Services for Increased Resilience in the Sahel,” World Meteorological Organization, accessed 15 November, 2018.



## Works Cited

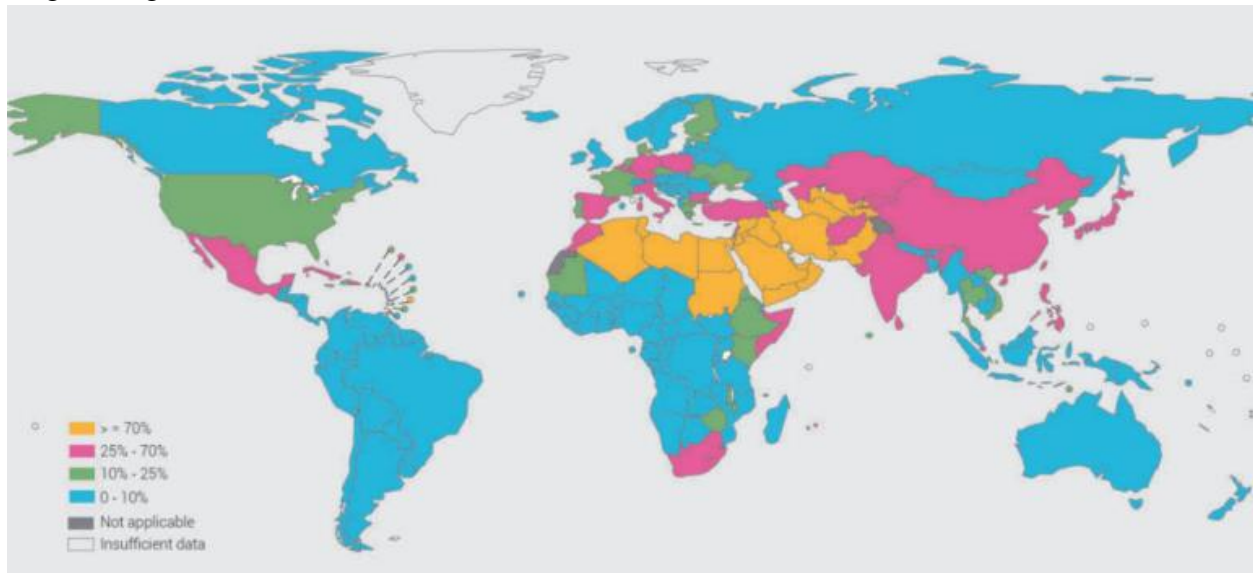
- 1) AGRHYMET Regional Center. "Climate Change in the Sahel." Accessed 13 November 2019. <http://www.agrhymet.ne/PDF/pdfeng/specialChCang.pdf>.
- 2) Broom, Douglas. "How the Middle East Is Suffering on the Front Lines of Climate Change." World Economic Forum. 2019 World Economic Forum, April 5, 2019. <https://www.weforum.org/agenda/2019/04/middle-east-front-lines-climate-change-mena/>.
- 3) Brough, Wayne and Kimenyi, Mwangi. "Desertification of the Sahel." Published 1 June 2004. <https://www.perc.org/2004/06/01/desertification-of-the-sahel/>.
- 4) Eden Foundation. "Desertification- A Threat to the Sahel." Published August 1994. <https://www.eden-foundation.org/project/desertif.html>.
- 5) Essoungou, Andre-Michel. "The Sahel: One Region, many Crises." From *Africa Renewal*, December 2013. <https://www.un.org/africarenewal/magazine/december-2013/sahel-one-region-many-cri>.
- 6) History.com Editors. "Climate Change History." History.com. A&E Television Networks, October 6, 2017. <https://www.history.com/topics/natural-disasters-and-environment/history-of-climate-change>.
- 7) Saha, Sagatom. "How Climate Change Could Exacerbate Conflict in the Middle East." Atlantic Council. Atlantic Council, August 19, 2019. <https://www.atlanticcouncil.org/blogs/menasource/how-climate-change-could-exacerbate-conflict-in-the-middle-east/>.
- 8) Shepard, Dan. "Global Warming: Severe Consequences for Africa." From *Africa Renewal*, December 2018- March 2019. <https://www.un.org/africarenewal/magazine/december-2018-march-2019/global-warming-severe-consequences-africa>.
- 9) World Bank. "Adaptation to Climate Change in the Middle East and North Africa Region." Middle East and North Africa - Adaptation to Climate Change in the Middle East and North Africa Region. Accessed November 16, 2019. [http://web.worldbank.org/archive/website01418/WEB/0\\_C-152.HTM](http://web.worldbank.org/archive/website01418/WEB/0_C-152.HTM).

- 10) World Meteorological Organization. “Greenhouse Gases.” World Meteorological Organization, December 13, 2018. [https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse\\_gases](https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse_gases).
- 11) World Meteorological Organization. “Climate.” World Meteorological Organization. World Meteorological Organization, November 14, 2019. <https://public.wmo.int/en/our-mandate/climate>.
- 12) World Meteorological Organization. “Climate Services for Increased Resilience in the Sahel.” Accessed 15 November 2019. <https://public.wmo.int/en/projects/climate-services-increased-resilience-sahel>.
- 13) World Meteorological Organization. “Frequently Asked Questions (FAQ).” Accessed 15 November 2019. [http://www.wmo.int/pages/prog/wcp/ccl/faq/faq\\_doc\\_en.html#:~:targetText=Climate%20change%20refers%20to%20a,\(typically%20decades%20or%20longer\)](http://www.wmo.int/pages/prog/wcp/ccl/faq/faq_doc_en.html#:~:targetText=Climate%20change%20refers%20to%20a,(typically%20decades%20or%20longer)).
- 14) USAID. “Climate Change Risk Profile: West Africa Sahel.” Accessed 13 November 2019. [https://www.climatelinks.org/sites/default/files/asset/document/2017%20April\\_USAID%20ATLAS\\_Climate%20Change%20Risk%20Profile%20-%20Sahel.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2017%20April_USAID%20ATLAS_Climate%20Change%20Risk%20Profile%20-%20Sahel.pdf).

## Topic B: Water Scarcity

### Introduction

According to the UN, water scarcity can mean scarcity in availability due to physical shortage, or scarcity in access due to the failure of institutions to ensure a regular supply or due to a lack of adequate infrastructure. Today, water scarcity affects every continent. 700 million people worldwide could be displaced by intense water scarcity by 2030<sup>16</sup>. The use of water has been growing globally at an exponential rate in the last century. This is causing a rising number of regions to reach the limit at which water services can be sustainably delivered, especially in arid regions. Water scarcity will be exacerbated as rapidly growing areas place heavy pressure on neighboring water resources<sup>17</sup>.



Water Scarcity is defined as “scarcity in availability due to physical shortage, or scarcity in access due to the failure of institutions to ensure a regular supply or due to a lack of adequate infrastructure”<sup>18</sup>. Africa and the Middle East are considered two of the most water scarce regions in the world. As shown in the photo above, they are placed at an over 70% level of water stress. Water stress starts when water availability to a country drops below 1,700 m<sup>3</sup>/year<sup>19</sup>. While these issues have been arising for hundreds of years, modern challenges such as climate change, urban development, and migration flows within the region have led to population increases in these water scarce regions. However, these regions are still lacking security policies and stability.

### History

<sup>16</sup> Hameeteman, Elizabeth. “Future Water (In)Security: Facts, Figures, and Predictions.”

<sup>17</sup> “Scarcity: UN-Water.” *United Nations*. Accessed November 15, 2019.

<sup>18</sup> “Water Scarcity in The Middle East.” *NATO Strategic Direction South Hub*, Accessed November 1, 2019.

<sup>19</sup> “Water Scarcity in The Middle East.” *NATO Strategic Direction South Hub*, Accessed November 1, 2019.

## *The Middle East*

The Middle East consists of Israel, Iran, Iraq, Syria, Egypt, Libya, United Arab Emirates (UAE), Qatar, and more. Originally, the term ‘Middle East’ was designated to the area between Great Britain and India<sup>20</sup>. Water scarcity and flooding poses a global threat, however the effects of this are more apparent in regions like the Middle East. The Middle East is considered one of the most water scarce regions in the world. Climate change has evolved the Middle East into the problem it has today. With periodic droughts, climate change has limited the time to preserve water resources. Water is also sub-optimized. This means that there is room for mitigation measures to augment the efficiency of resource use. These measures consist of technology and investment as well as governance reforms. These reforms are “with an overarching strategy of synergy and optimization”<sup>21</sup>.

Geography also plays a role in the evolution to this water scarce region. The Middle East is known as a transboundary region. This means that water basins and aquifers are shared by at least two other countries, as seen in the photo to the left. Nearly two-thirds of the population are living in areas that lack sufficient renewable water resources<sup>22</sup>. Therefore, finding solutions has become very difficult for this region, as these plans normally fall short. Transboundary regions are difficult to find solutions for due to the costs and amount of people. In the Middle East, a majority of these regions are overpopulated meaning a high inflation rate on all goods.



## *Africa*

Water scarcity has been a recurring issue in Africa through the years. Geographically induced climate conditions, combined with the effects of post-colonial exploitation of resources, have led to the existence of dry conditions and a lack of resource channeling. Today, the region of South Africa is disproportionately affected by the issue.

South Africa, a country located at the Southern Tip of Africa, is home to 49 million people. One crisis that looms in the distance for South Africa is water. There are many elements that

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<sup>20</sup> “Water Scarcity in The Middle East.” *NATO Strategic Direction South Hub*, Accessed November 1, 2019.

<sup>21</sup> “Water Scarcity in The Middle East.” *NATO Strategic Direction South Hub*, Accessed November 1, 2019.

<sup>22</sup> Baconi, Tareq. “How water scarcity could destabilise the Middle East and North Africa.”

contribute to this growing water crisis. Climate change has affected water supplies within the region<sup>23</sup>. Additionally, rains that usually occur and consequently supply the country's water has started coming infrequently. Due to this rising scarcity, more cities are looking to impose water restrictions. Many of South Africa's water problems can be attributed to the apartheid.

During the apartheid era, the government of South African was a largely centralized power dominated by the wealthy (white) minority. Therefore, a new government was required before the people of South Africa would see any changes to their municipal support<sup>24</sup>. In 1994, the government declared ownership of all water and sanitation services by assigning the Department of Water Affairs and Forestry (DWAF) the task of assuring that all South Africans had "equitable access to water supply and sanitation"<sup>25</sup>. DWAF then started the Community Water Supply and Sanitation (CWSS) Program in 1994, intending to target prime areas for instituting water and sanitation systems<sup>26</sup>. While the goal of this initiative was for all people living in South Africa have access to adequate, safe, appropriate and affordable water and sanitation services, use water wisely and practice safe sanitation, this was not the result.

In 1996, as the apartheid era ended in South Africa, the new national government drafted a constitution depicting their vision of a novel free country. For the first time in South African history, its citizens were legally entitled to "an environment that is not harmful to their health or well-being"<sup>27</sup>. However, the difference between "human rights" and "service rendered", meant that of the 40 million people living in South Africa at the time, more than a third were still denied access to a basic water supply while more than half lacked basic sanitation<sup>28</sup>.

## **Current Issues**

### *The Middle East*

The Middle East is known to having one of the largest oil reserves in the world. Still with this large source of wealth, the environment makes living there harsh. Nearly two-thirds of populations living in areas that lack sufficient water are unable to sustain current levels of activity and growth<sup>29</sup>. When combined with these factors, constrained access to water is set to lead to greater instability in the region. Most of the land available for producing food is

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<sup>23</sup> Barton, Alexandra. "Water in Crisis - Middle East."

<sup>24</sup> Hameeteman, Elizabeth. "Future Water (In)Security: Facts, Figures, and Predictions."

<sup>25</sup> Hameeteman, Elizabeth. "Future Water (In)Security: Facts, Figures, and Predictions."

<sup>26</sup> "Cape Town Project Center". Accessed November 16, 2019.

<sup>27</sup> "Water In Crisis - Spotlight South Africa." *The Water Project*, Accessed November 15,

<sup>28</sup> Hameeteman, Elizabeth. "Future Water (In)Security: Facts, Figures, and Predictions."

<sup>29</sup> Baconi, Tareq. "How water scarcity could destabilise the Middle East and North Africa."

destroyed by desertification. This greatly impacts Jordan, Iran, Iraq, and Syria. Agriculture uses nearly 85% of water in these regions<sup>30</sup>.

The United Arab Emirates is famous for its cities being filled with resorts, lavish shopping, and beautiful attractions. This makes most believe water scarcity is not an issue here, however, it's the opposite. The UAE has faced a serious depletion of their available water resources. A report from the Emirates Industrial Bank in 2005 said that the UAE had the highest per capita consumption of water in the world. At this rate, the UAE will completely deplete its natural freshwater resources in almost 50 years<sup>31</sup>.

Currently, 9 out of 15 countries in the Middle East region are characterized by absolute water scarcity<sup>32</sup>. The Arabian Peninsula, impacted most, has only 1% of the renewable water resources in the Middle East while comprising 47% of its geography. The availability of water effects that countries economic activity, energy security, and production of food. Without water, the Middle East cannot flourish as it used to.

### *Africa*

The South African region, which consists of Botswana, Swaziland, Zimbabwe, Zambia, Lesotho, and Malawi, receives an annual rainfall of 492 millimeters, which is nearly half the earth's average<sup>33</sup>. Subsequently, South Africa is classified as a water-stressed country. Contributing to the issue is fluctuation between flooding and droughts, and hot dry conditions that result in a high evaporation rate.

Currently, this precious water is stored in a large number of dams all over the region. There are also several water transfer schemes that move water from one catchment via pumps, pipes and canals into another catchment<sup>34</sup>. Gauteng is supplied with water from the Vaal Dam catchment; which includes the Vaal River, Wilge River, and all their tributaries. There are two water transfer schemes that feed into the Vaal Dam catchment, namely the Lesotho Highlands Water Project, which obtains water from the mountains of Lesotho, and the Tugela-Vaal Water Transfer Scheme, which obtains water from Kwa-Zulu Natal and is released into the Vaal Dam catchment when needed.

According to the Department of Water and Environmental Affairs, the demand for water will outstrip supply in the whole of South Africa by 2025. South Africa's currently does not have the economic capacity to build more dams and water transfer schemes. Thus, as the human population increases, so does the demand for water. Water quality is an element that is further

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<sup>30</sup> Barton, Alexandra. "Water in Crisis - Middle East."

<sup>31</sup> Barton, Alexandra. "Water in Crisis - Middle East."

<sup>32</sup> "Water Scarcity in The Middle East." *NATO Strategic Direction South Hub*, Accessed November 1, 2019.

<sup>33</sup> "Water Situation in South Africa." *Water Wise*, Accessed November 16, 2019.

<sup>34</sup> "Water Situation in South Africa." *Water Wise*, Accessed November 16, 2019.



contributing to the crisis in South Africa. Potable water is defined as water that is safe, drinkable and accessible to life. In South Africa, fresh water is decreasing in quality because of an increase in pollution and the destruction of river catchments, caused by urbanization, deforestation, damming of rivers, destruction of wetlands, industry, mining, agriculture, energy use and accidental water pollution<sup>35</sup>.

## Current Positions

### *The Middle East*

The World Meteorological Organization has built a project to help the water scarce region. This project is called the Blue Peace project. The Blue Peace project began in April of 2016 and ended in December of 2018<sup>36</sup>. What drew attention to the need for this was the Intergovernmental Panel on Climate Change (IPCC) reported a precipitation decrease over the next century for the Middle East. This would increase the scarcity and droughts to the region. Therefore, it was essential to strengthen the hydro-meteorological monitoring network in order to manage the water resources of the region. The hydro-meteorological monitoring network is an operational tool that measures the atmospheric, hydrologic and hydraulic variables characterized in the hydrological cycle. The objective being to enhance regional water management and empower the broader<sup>37</sup>. The main goal of the Blue Peace project is to strengthen the delivery of weather, water and climate services.

This is to support economic development and disaster risk management. The project's aims to “improve monitoring, data management, as well as information sharing to enhance regional coordination and collaboration, through training on quality management, improved field measurement”<sup>38</sup>. This is also done through provision of equipment - observation equipment and data management tools - as well as supporting institutional cooperation. Through this project, Lebanon and Jordan have also accessed the Flash Flood Guidance System for the Black Sea and the Middle East. WMO had four planned outcomes for this project. The four outcomes are: establish a Cooperation Council for Water Resources in the Middle East, close the knowledge gap about surface and groundwater resources while ensuring efficient water management, regional capacity building measures to create opportunities, and a training programme for the media network<sup>39</sup>.

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<sup>35</sup> “Water In Crisis - Spotlight South Africa.” *The Water Project*, Accessed November 15, 2019.

<sup>36</sup> “Blue Peace Middle East Initiative.” *Water Security in the Middle East*, Accessed December 11, 2019.

<sup>37</sup> “Blue Peace Middle East Initiative.” *Water Security in the Middle East*, Accessed December 11, 2019.

<sup>38</sup> “Strategic Management of Hydro-Meteorological Data and Information Product Generation - A contribution to the Blue Peace Initiative.” *World Meteorological Organization*, Accessed November 7, 2019.

<sup>39</sup> “Blue Peace Middle East Initiative.” *Water Security in the Middle East*, Accessed December 11, 2019.

WMO has also been working towards strengthening their technical, human, and institutional capabilities. By doing this they are able to provide assessments, outlooks, forecasts, and warnings to populations pending extreme events<sup>40</sup>. These hydrological applications are the basis for planning reservoirs to store water. They are storing water for a variety of uses like agriculture, industrial activities, domestic requirements, fisheries, tourism, and environmental sustainability<sup>41</sup>. Many of these sources of water come from international river basins, making international cooperation essential. WMO promotes regional and global cooperation in order to monitor and develop plans to their early warning systems.

## *Africa*

Working together, both the World Health Organization (WMO) and the United Nations International Children's Emergency Fund (UNICEF) formulated a goal target of halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. This was set as part of the Millennium Development Goals (MDGs). Currently, the World Meteorological Organization has been striving to find solutions to the devastating effects of flash flooding in South Africa. Flash flooding, as discussed, contributes to the fluctuating and volatile scape of South African water collection. They are among the world's deadliest natural disasters with more than 5,000 lives lost annually<sup>42</sup>.

The programs initiated on a global scale that have affected South Africa include the Flash Flood Guidance System with Global Coverage (FFGS) as well as the "GFCS Adaptation and Disaster Risk Reduction in Africa"<sup>43</sup>. The purpose of the first is to address the issues associated with flash floods, especially the lack of capacity to develop effective flash flood warnings. It was designed and developed for interactive use by meteorological and hydrological forecasters throughout the world. For South Africa, this ensures access to preventative methods against the devastating effects of sudden flooding. The purpose of the latter is to provide timely and accurate climate and weather services for disaster risk reduction and increased resilience in agriculture, aiding in providing these mentioned measures.

## **Resolution**

Although Africa and the Middle East are seeking efforts to combat water scarcity, it is still impacting every region of the Earth in some way. These water scarce regions are forced to implement higher inflation rates over actual solutions. The goal of this committee is to reevaluate what WMO has put in place, or already done to help these regions. For the Middle East, the Blue

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<sup>40</sup> "Water." *UN Water*, Accessed December 10, 2019.

<sup>41</sup> "Water." *UN Water*, Accessed December 10, 2019.

<sup>42</sup> "Water." *UN Water*, Accessed December 10, 2019.

<sup>43</sup> "Water Situation in South Africa." *Water Wise*, Accessed November 16, 2019

Peace project was created and is completed to help water scarcity in the Middle East, they are still suffering from water scarcity. For Africa, WMO and UNICEF successfully completed their target of halving the proportion of people without sustainable access to safe drinking water and basic sanitation in 2015. As a committee, it is crucial to develop new ideas and create a viable, everlasting solution.

### **Questions to consider**

- What has your country already done to prevent its worsening drought conditions in Africa?
- What resources does your country have that could assist in ending the water crisis?
- How is water scarcity being addressed by your country?
- How can WMO respond to the water crisis and what would make these new strategies effective?
- Could NGOs be a viable solution?
- What could be added to the Blue Peace project to help water scarcity in the Middle East?
- What can be put in place to help transboundary regions?

### **Useful links**

- <https://public.wmo.int/en/our-mandate/water>
- <https://www.unwater.org>
- <https://www.unwater.org/water-facts/scarcity/>

## Works Cited

- 1) Baconi, Tareq. "How water scarcity could destabilise the Middle East and North Africa." *European Council on Foreign Relations*, 2018. Accessed December 10, 2019. [ecfr.eu/publications/summary/how\\_water\\_scarcity\\_could\\_destabilise\\_the\\_middle\\_east\\_and\\_north\\_africa](https://ecfr.eu/publications/summary/how_water_scarcity_could_destabilise_the_middle_east_and_north_africa)
- 2) Barton, Alexandra. "Water in Crisis - Middle East." *The Water Project*, Accessed November 3, 2019. <https://thewaterproject.org/water-crisis/water-in-crisis-middle-east>.
- 3) "Blue Peace Middle East Initiative." *Water Security in the Middle East*, Accessed December 11, 2019. [https://www.shareweb.ch/site/Water/reseau/Documents/Factsheet\\_Blue%20Peace%20Middle%20East\\_final\\_04.17.pdf](https://www.shareweb.ch/site/Water/reseau/Documents/Factsheet_Blue%20Peace%20Middle%20East_final_04.17.pdf)
- 4) "Cape Town Project Center". Accessed November 16, 2019. <https://wp.wpi.edu/capetown/projects/p2009/water-sanitation/project-resources/reference-list>.
- 5) Hameeteman, Elizabeth. "Future Water (In)Security: Facts, Figures, and Predictions." *Global Water Institute*, 2013, [https://img1.wsimg.com/blobby/go/27b53d18-6069-45f7-a1bd-d5a48bc80322/downloads/1c2meuvon\\_105010.pdf](https://img1.wsimg.com/blobby/go/27b53d18-6069-45f7-a1bd-d5a48bc80322/downloads/1c2meuvon_105010.pdf).
- 6) Lehohla, Pali. "Provincial profile: KwaZulu-Natal." *South African Statistics*, 2011. <http://www.statssa.gov.za/publications/Report-03-01-74/Report-03-01-742011.pdf>
- 7) Savides, Matthew. "Water Shortages Loom for Durban." *IOL News*, 2016. <http://www.iol.co.za/news/south-africa/kwazulu-natal/water-shortages-loom-for-durban-1.1036749>.
- 8) "Strategic Management of Hydro-Meteorological Data and Information Product Generation - A contribution to the Blue Peace Initiative." *World Meteorological Organization*, Accessed November 7, 2019. <https://public.wmo.int/en/projects/strategic-management-hydro-meteorological-data-and-information-product-generation>.
- 9) "Scarcity: UN-Water." *United Nations*. Accessed November 15, 2019. <https://www.unwater.org/water-facts/scarcity>.
- 10) "Water." *UN Water*, Accessed December 10, 2019. <https://public.wmo.int/en/our-mandate/water>.

- 11) “Water In Crisis - Spotlight South Africa.” *The Water Project*, Accessed November 15, 2019. <https://thewaterproject.org/water-crisis/water-in-crisis-south-africa>.
- 12) “Water Scarcity in The Middle East.” *NATO Strategic Direction South Hub*, May 2019. Accessed November 1, 2019. [https://thesouthernhub.org/resources/site1/General/NSD-S%20Hub%20Publications/Water\\_scarcity\\_in\\_the\\_Middle\\_East.pdf](https://thesouthernhub.org/resources/site1/General/NSD-S%20Hub%20Publications/Water_scarcity_in_the_Middle_East.pdf).
- 13) “Water Situation in South Africa.” *Water Wise*, Accessed November 16, 2019. <http://www.waterwise.co.za/site/water/environment/situation.html>.