Winter 2019

Does Climate Change Invoke Conditions that Create Conflict? Lessons Learned from Syria and Beyond

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Senior Project Submitted to The Division of Political Studies of Bard College
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Annandale-on-Hudson, New York December 2019

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DEDICATION

In loving memory of my mother Margaret O'Connell who believed the world was larger than our backyard and encouraged me to go out and explore it. Her sacrifices so I could attend Bard will be remembered as one of the greatest gifts she gave me for my future.

I would also like to acknowledge:

My husband Aaron Alamo for his love and support throughout and for pushing me to finish.

My cousin Patti Murphy for her tremendous help, guidance and love.

To all my loving and supportive friends, (especially Laurie Kelleher and Malia DuMont)**, and supportive colleagues near and far** who always asked how my project was going and cheered me on.

To Professor James Ketterer for encouraging me to finish and taking me under his advisement.

To Professor Sanjib Baruah for, after 25 years, still believed in me enough to advise me.

To Jane E. Smith for always being positive and helping me to become a more concise writer.

To Alexa Murphy for all her in-depth research guidance along the way.

INTRODUCTION

The past few years have seen both an increase in violence as well as an increase in extreme weather events around the world. The media is increasingly covering climate change and there is an emerging recognition and a scientific consensus on climate change as a result of human activities. This media coverage has prompted a thought-provoking debate among leading policymakers, activists, and researchers about the relationship between climate change and conflict and cued many international organizations, humanitarian and development agencies, and even military planners to conduct research in this area. The development world even coined a new title for the field--the Climate Change Causes Conflict (CCCC) debate--which I will explore here in the project. There is significant evidence and discourse written on CCCC connection, both for and against, to warrant further exploration. This is what makes a country like for example Syria a perfect case study when exploring whether climate change influences violent conflict.

The definition of **climate change** as described in The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report[1] concluded that it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century. In the last 10 years, research and theories on the existence of climate change have grown more numerous. Assuming that climate change does exist, experts want to understand associated global risks. Researchers, scientists, the UN, and various government agencies and organizations have offered different views on what they believe are the adverse effects of global warming.

[1] The Editors of Encyclopaedia Britannica, Intergovernmental Panel on Climate Change, Encyclopædia Britannica, Encyclopædia Britannica, inc., October 23, 2019

The definition for **conflict** involves at least two parties using physical force to resolve competing claims or interests. Usually a conflict involves only non-state actors and often the term is used as a synonym for a war which involves at least one government.[2] Not until the last ten years have climate change and conflict been linked together and it seems to make a lot of sense given the growing media coverage of climate change and increase in conflicts within countries. On an international level in particular, these issues are being combined. Within the last decade, the emergence of a intra-state conflict can be seen. There are conflicts in Sub-Saharan Africa and the Middle East that seem to be either directly or indirectly correlated to suggest a connection between conflict and climate change. What all these regions have in common is that they have had severe weather changes causing their agricultural sustainability to be at risk.

In the last 10 years, research and theories about the existence of climate change have grown more numerous. Assuming that climate change does exist, experts want to understand the associated global risks for example political instability within a country which could then affect the way they relate to the international community. Researchers, scientists, the UN, and various government agencies and organizations have offered different views on what they believe are the adverse effects of global warming. In this project, we will explore both sides of the debate, ie., whether there is or is not a direct connection between climate change and conflict.

Before researchers, international organizations, military planners, and others thinking about the climate-conflict connection turned to Syria, they examined an earlier, complex case: the war in Sudan's Darfur. The basic argument that was forcefully put forward by many kinds of experts was that increased levels of drought and changes to precipitation increased the levels of

[2] Frère, M.-S. & Wilen, N. (2015). *INFOCORE Definitions*: *"Violent conflict"*. Bruxelles: ULB.

poverty and famine directly caused the conflict in Darfur. Specifically, in 2003, rainfall decreased significantly and tensions between farmers and herders increased. They all now had to share the same water sources. The farmers and herders were also forced to migrate to areas that had newer forests because theirs were disappearing. In this case, the environmental change contributed directly to migration because people were pushed out of uninhabitable areas.
One of the major challenges to the argument that climate and conflict were connected that emerged in the case of Darfur, however, was that its central premise about rainfall levels was found to actually not be true. So, the climate-conflict nexus was oversold in one of its first test cases, Darfur. Because sensationalism of the conflict in Darfur occurred it called into question the credibility of the climate-conflict argument when it is used later in other contexts, such as Syria.

Two researchers in particular-Peter Gleick, co-founder of the Pacific Institute, a global water think tank in California, and Jan Selby, a researcher and Professor of International Relations at the University of Sussex in the UK-seem to be the main spokespeople for the pro and con climate-conflict connection camps. Gleick argues that there is enough evidence in the case of Syria to point to climate change being a stressor/ multiplier while Selby argues that there is just not enough evidence that climate change led to the uprising in 2011 and the ongoing civil war for it to be considered a major stressor or multiplier. Both offer valid reasoning.

I will lay out Gleick's and Selby's positions along with sources that fall in line with them. There is a large body of research and theory about the link between climate and conflict in the Syrian civil war. There are several sub-groupings of multiple different chains of causal effects and downward outcomes that are suggested by a wide range of authors from NGOs, academia and

international organizations. While many theorists and researchers have written on this debate, at their core they all argue that violent conflict is a direct effect of climate change or environmental degradation.

Why has Syria taken a central role in this debate? I came to this example in the same way that many other people did. When I read the 2015 *New York Times* article "Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change,"[3] which investigated this general relationship, it seemed important and one worthy of attention. The Syrian civil war, which began in March 2011 in the city of Dara'a, just over 100 kilometers south of Damascus, Syria's capital and biggest city, has claimed more than half a million lives and forced nearly a million more people to move their homes to larger urban areas.[4] In 2018, the UN warned that the worst humanitarian catastrophe in this century could happen in Syria.[5] Usually when you think of Syria, climate change does not come to mind. However, climate change was identified early on as a major factor in the outbreak of the civil war.

There are many conflicts that researchers could have looked into to explore this link between climate change and conflict. What makes the situation in Syria unique is the scope of the conflict, which includes multiple domestic and international factors, an international refugee crisis, and a set of internal conditions. Those conditions were caused by a combination of extreme dryness with the faulty agricultural and water-use policies of the Syrian government, causing crop failures that led to the migration of as many as 1.5 million people from rural to urban areas.[6]

[3]Fountain, Henry, (London, The Independent,2018), Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change*, The New York Times,* March 2, 2015.
[4] ibid
[5]Daragahi, Borzon, UN warns of 'worst humanitarian disaster' of the 21st century as 30,000 flee Syria's Idlib ahead of offensive, London, The Independent, 2018
[6] ibid

In exploring the climate-conflict link, we need to think about more than just climate factors, but what leads to conflict itself. In my education and, more recently, my work in the international non-government organization (NGO) sector, I have studied and analysed wars and conflicts, how they came to be, their possible outcomes, and their global implications. The NGO sector has a robust literature and tradition on conflict and conflict resolution. Very often theories about conflict and how it unfolds are woven into this debate as researchers point to economic, development, resource, political, military, and other factors working at the same time in complex ways that lead to conflict.

At the EastWest Institute, I was part of working groups and departmental brainstorming sessions on how to initiate and implement negotiations between parties whether they be a high-level government party officials, warring ethnic groups, or opposing political parties. In all these issue areas, I have noticed a common denominator: a relationship or common link that connects climate change with conflict. Within that common denominator there is often a breakdown to find a solution to combat climate change as it is associated with invoking conflict. I have also seen climate change come more and more frequently into the conversation.

In this project, I will draw upon my work experiences and the research I have conducted on the bigger climate change/conflict debate. I will investigate whether climate change is a direct or indirect cause of conflict and what it triggers exactly. To do that, I will use examples from both sides of the debate cited by many researchers, journalists, and policymakers in regard to Syria and its ongoing civil war. I will also provide two appendix documents. Appendix One, a timeline of the climate change–conflict debate, can be used as a tool while reading this project, and Appendix Two provides visuals from an important analysis done by a United Nations body in 2016. Both

offer slightly different views. Appendix One being more of a broad view and Appendix Two digging on a more macro level on the information in this project.

CHAPTER 1:
Theories favoring a connection between climate change and conflict

This chapter will examine arguments about specific conflicts that are used to argue the case against the climate change–conflict relationship. Being that there are a range of arguments that detail the way climate can contribute to existing conditions therefore causing conflict, it is important to examine the cases that don't support those arguments. It is important to fully understand the arguments of the skeptics because, as with the climate change debate itself, if their narrative gains credibility it can slow down actions by policymakers to address the underlying climate change problems as well as their ability to understand how to conduct conflict resolution in a climate change-conflict scenario. These arguments will be detailed in this chapter.

No Linear Link

Some authors reject that existence of a link between climate and conflict. University of Sussex researcher, Jan Selby doesn't think the link is so clear, for instance. Instead he says that there is no clear and reliable evidence to make such a connection. He thinks the Syrian civil war was in the making well before the drought. Selby's article does not support the fast growing conclusions that there is a direct link between climate change and conflict and argues that researchers and policy makers should be more cautious about making these assumptions.[7]

Like Selby, Johan Schaar, Associate Senior Fellow with the Stockholm International Peace Research Institute (SIPRI) Peace and Development and Conflict and Peace Programme's believes no direct and linear relationship between climate change and conflict can be established.

[7] Selby, Jan, *Climate change and the Syrian civil war revisited*, Dahi, Omar S , Frohlich, Christine, Hulme, Mike, Political Geography Volume 60, September 2017, Pages 232-244

In SIPRI's 2017 working paper, *"*The Relationship between Climate Change and Violent Conflict"[8] Schaar states that. Instead he (cautiously) warns that research has shown how climate change *indirectly* affects conflict risk through other factors such as a change in livelihood conditions but the direct link is not there.

Conflict as Indirectly Linked to Climate

The concept of threat multiplier[9] is one that considers climate to have indirect effects on the outbreak of conflict. This is a widely held view among the skeptics of the climate change -conflict connection. Some experts argue that there is only an indirect link between climate change and conflict. For example, a February 2019 paper called "The Nexus of Climate Change, Land Use, and Conflicts"[10] makes this argument: "Climate change has been perceived as a threat multiplier, directly aggravating human security risks, such as food and water insecurity, as well as indirectly contributing to conflict in regions vulnerable to climate change.*"* It contains a chapter by Francesco Femia and Caitlin Werrell using the case study of Syria citing climate change as a threat stress/multiplier that led up to the revolution in 2011.

The pre-existence of certain troubling conditions such as state fragility, internal conflict, water scarcity and drought are necessary for climate's effects to multiply the threat of conflict. It is useful to examine a few points in the research by the United Nations about how conflicts actually unfold, especially as they relate to how climate change indirectly affects conflict risk through other factors. What are the pre-conditions setting regions or countries up for failure?

[8] Schaar, Johan, Swedish International Development Agency, *The Relationship between Climate Change and Violent Conflict*, Peace and Security Tool Box, March 2017

[9] The term threat multiplier means something that it may exacerbate other threats to security.

[10] Claussen, Martin, Link, Jasmin, Scheffran, Jürgen, May 14, 2015, *The Nexus of Climate Change, Land Use, and Conflict: Complex Human–Environment Interactions in Northern Africa,* Bulletin of the American Meteorological Society

Many of the conflicts that have been examined in the climate context seem primarily to be local conflicts, but they may become linked to and become part of larger-scale country or regional conflicts. An important factor is the alteration of the conditions under which people make their livelihood:(how they earn money, how they can spend it, how affordable or liveable life is, and what the absolute and relative resources are available to them. The United Nations says that the risks are particularly large in areas or countries: 1) with a history of violent conflict; 2) where institutions and mechanisms for managing and resolving conflicts are absent or are compromised; 3) where due to new migration into an area, there is a feeling of unrest between the locals and the migrants; and 4) where societies that directly depend on natural resources for their livelihoods now have fewer resources at their disposal.[11]

Another important feature of the climate change and conflict arguments relates to development levels in countries. The development levels in rich versus poor countries can often be the key to avoiding the threat multiplication effect. Wealthier countries often have access to resources and can address the climate effects; in fact, wealthier countries in most cases seem to have less food/water energy issues to begin with.

Overstated or Simplistic? The Climate Change-Conflict Debate

According to a 2016 report by the Swedish International Development Cooperation Agency (SIDA), the claim that climate change–related drought during the years before 2011 was a major factor contributing to the civil war in Syria has been given much attention, but is increasingly regarded by skeptics and "climate deniers" as simplistic and misleading. Another

[11] United Nations Interagency Framework Team for Preventive Action, *Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict*

group in the skeptics camp argues that the new attention to climate change as a security threat can exaggerate climate change's role in causing conflicts while ignoring other complex underlying factors.[12] (Chapter 2 will detail how the military has been researching the climate-conflict nexus since 2003, and how the climate-conflict connection has been mainstreamed into military planning and strategy.)

David Livingstone, professor of geography and intellectual history at Queen's University Belfast and author of "Stop Saying climate Change Causes War"[13] for example, criticizes the rhetoric on climate change and conflict. He still acknowledges that global warming is a real and present danger and that it can, in some occasions, be linked to violence and warfare. However, he argues that the "increasing trend toward what some have called the 'securitization of climate change,' and the impulse to reduce conflict simply to matters of the weather, carries with it its own kind of moral danger."[14] In other words, if people attribute everything to climate, what will we miss in our understanding of events? The article expresses concern about the ease with which such a straightforward connection between climate and war has become a national security threat. Likewise, Peter Halden, from the Department of Peace and Conflict Research at Uppsala University in Sweden, questions in his report[15] whether and in what way climate change may alter the conditions of international security to create conflict. He states that the initial effects of climate change vary in different world regions. Depending on the severity of climate change, these conditions may change over the long term. Although long-term consequences may be grave,

[12]ibid
[13] Livingstone, David, *Stop Saying Climate Change Causes War*, Foreign Policy magazine, December 4, 2015
[14] Werrell, Caitlin and Femia Francesco, *Let's Not Say Climate Change Causes War. But Let's Also Not Ignore the Real Security Risks*, Climate and Security, December 2015
[15] Halden, Peter, *The Geopolitics of Climate Change: Challenges in the International System,* University of Sweden

Halden asserts that climate change is unlikely to lead to an increase in conflicts in the short to medium term.

Climate-Conflict as Distracting from Real Causes of Conflict

Even further down the spectrum is a school of thought that the climate-conflict nexus is actively distortive and maybe even advances unintended political aims. Journalist Francesca de Châtel argues that climate change and conflict are not linked. In her article,[16] she argues that the Syrian government itself blamed drought and climate change for the worsening humanitarian situation in Syria. This argument was used by the Syrian government to distract from its own failure to provide basic services to its people or share power with minority groups and de Châtel's analysis raises some troubling questions. The "pro" climate change–conflict camp, in their attempt to bolster the Syrian case to strengthen broader climate change concerns, may have unwittingly or cynically supported the Assad government's own arguments. de Châtel dives into the actual climatic conditions in Syria in great detail. After conducting many interviews with local farmers and herders, she argues that it seemed more likely the drought was just one of many factors that forced them to abandon their land. As with many countries in the Middle East North Africa (MENA) region, Syria has the combination of lower rainfall and crop failures, which led to the mass migration of people in the rural areas to the bigger urban areas. If we look at other countries in the MENA region, however, we see that lower rainfall did not spiral into civil war. Ms. de Chatel therefore calls into question the reliability of the link altogether. Although many reputable organizations have linked climate change with conflict, others maintain that the

[16] de Châtel, Francesca, *The Role of Drought and Climate Change in the Syrian Uprising: Untangling the Triggers of the Revolution*

connection has been overstated. An article in the online newsletter, "The Conversation",[17] examines the links between drought, migration, and conflict, and the article contradicts the common narrative that assumes a relationship between the climate conflict/wars and regular conventional conflict/wars as we know it.[18] Instead it posits that the relationship is not so simple and that putting too much emphasis on the climate overlooks the role of political and socio-economic factors which could determine any vulnerabilities on communities.

Syrian Drought as a Broader Environmental Degradation Event

In February 2013, the Center for American Progress and the Center for Climate and Security published a working paper called "A Climate and Security Correlations Series, The Arab Spring and Climate Change.[19] It argues that climate change may not have caused the Arab Spring, but it may have made it come earlier. Further, it argues, the influence of climate change and water-security simultaneously may have actually helped in resolving conflict.[20] Issues which then result in fluctuations of food supply and prices creating not just a local problem but a global one.

A June 2015 piece in The Ecologist titled "Overgrazing and Desertification in the Syrian Steppe Are the Root Causes of War"[21] argues that civil war in Syria is the result of the desertification of the Syrian steppe (desert in Syria). It is noted in the article that this process began in 1958 when the Bedouins (nomadic people) opened up the area and had unrestricted grazing, which could have contributed to the deterioration of the environment. This deterioration

[17]Eklund, Lina and Thompson, Darcy, *Is Syria really a 'climate war'?*, The Conversation, July 21, 2017
[18] Climate War(s) is a term commonly used to describe the idea that climate change might be a trigger for social disorder.
[19] Edited by Caitlin E. Werrell and Francesco Femia, February 2013, *The Arab Spring and Climate Change*, Center for American Progress
[20] WWAP, UNESDOC Digital Library, 2011, *Water and climate dialogue: adapting to climate change: why we need broader and 'out-of-the-box' approaches.*
[21] Serra, Gianluca, *Overgrazing and desertification in the Syrian steppe are the root causes of war,* The Ecologist, June 5, 2015.

of the environment, the article argues, resulted in a rural intifada[22] of farmers and nomads who were no longer able to support themselves. The implications of pointing to a policy that starts in 1958 is worth thinking about because it means that 60 years of general environmental degradation have been playing out alongside any effects of manmade climate change.

Intermediate Conclusions

This chapter has shown a spectrum of arguments against a climate-conflict connection. These arguments include 1) the outright rejection of a direct link between climate and conflict; 2) the admission that an indirect link may exist; 3) the claim that the link is overly simplistic and overlooks other more dominant factors; 4) the assertion that climate change distracts from other real factors; 5) the claim that the proponents of the climate-conflict link overemphasize security implications; and 6) the charge that these proponents ignore or confuse climate change with broader environmental degradation factors.

The next chapter will examine the arguments of the other side, laying out the chain of causes and effects leading up to a climate-induced conflict, from another, sometimes surprisingly similar, perspective.

[22] A resistance or uprising. This term was first used in the Israeli occupation of the West Bank and Gaza Strip.

CHAPTER 2:
Theories against a direct connection between climate change and conflict

Whereas, in chapter 1 we surveyed the claims of experts who argue against a direct relationship between climate change and armed conflict, in this chapter we will consider arguments and evidence that support a (direct) connection between the two. Significant evidence and theories connecting climate change and conflict argue both for or against this theory that there is a relationship between climate change and conflict, which warrants further exploration.
The proponents of a strong climate-conflict link often point to regions in Sub-Saharan Africa and the Middle East as examples of places where conflict is directly or indirectly correlated climate change. These regions have suffered severe weather changes that put their agricultural sustainability at risk.

More and more there are studies being done that compare climate change and with other disturbances within a country. In a 2013 *National Geographic* survey[23], a team of researchers converted and compared data for rising temperatures and rainfall amounts. They found that even relatively minor departures from normal temperatures or rainfall amounts substantially increased the risk of conflict on a variety of levels, ranging from individual aggression, such as murder and rape, to country-level political instability and international wars such as in Southeast Asia (Cambodia) and even in ancient civilizations in Mexico (Maya). This scenario is becoming more and more common as researchers find ways to study the climate change-conflict debate.

[23] Than, Ker, Wars, *Murders to Rise Due to Global Warming*?, National Geographic magazine, August 1, 2013

Climate and Security

In the early 2000s, U.S. military planners and intelligence analysts started to examine the challenges posed by climate change. An October 2003 report from the U.S. Department of Defense (DOD)[24] received wide public attention for portraying a grim scenario that there is a direct link with warring states and massive social disturbance as a result of dramatic climate change. This was the first time a study like this had been done in such detail. It was the first time climate change was officially recognized as a cause of conflict. The study concluded that "climate change and energy are two key issues that will play a significant role in shaping the future security environment," noting that "climate change, energy security, and economic stability are inextricably linked."[25]

Further, in 2018, the National Intelligence Council completed its first assessment of the national security implications of climate change and the potential for geopolitical impacts along with the humanitarian responses.[26] The results of the assessments were that storms, droughts, and food storages would increase humanitarian relief demands.

On the CCCC Debate

During the last decade, which has seen a strong uptick in internal conflicts, the climate change causes conflict (CCCC) debate[27] has emerged as a topic of concern, particularly in international development organizations. Leading researchers give credibility to the theory that

[24]Fincham, Michael W. *The day before yesterday: when abrupt climate change came to the Chesapeake Bay*, March 7, 2014
[25] Johnson, Brad, Pentagon: '*Climate change, energy security, and economic stability are inextricably linked',* Climate and Energy, February 2, 2010
[26] Werrell, Caitlin, Femia, Francesca, *U.S. Intelligence Community: Impacts of Climate Change Raise the Risk of Conflict in 2018*, Center for Climate and Security, February 14, 2018
[27] A term coined at the Intergovernmental Panel on Climate Change, 2015

there is a direct linkage between climate and conflict and that it is important that we recognize it as such. There are different schools of thought about the links between climate and conflict and delved in particular into how different schools of thought have grappled with this link in the case of the Syrian conflict. At its core, CCCC literature explores climate change as a risk multiplier meaning climate change will increase an escalation in conflict. Among other factors, CCCC proponents examine the implications of increasing heat and drought and more severe weather. According to CCCC adherents, these factors will cause deadly, large-scale human migrations away from coasts and will also push populations dependent on rainfall or irrigated agriculture to the brink of fierce competition for productive resources. Thus, both directly and indirectly, these population movements in search of access to land and water will lead to increasingly frequent and hostile confrontations.[28]

Arguments related to the Agricultural Sector

The relationship between climate change and conflict is also crucial to the survival of farmers and those in the agricultural sector in geographic areas prone to drought. The drought impacts the livelihood of the farmers and destroys the region's food security, which is already quite fragile. The World Bank states that globally agriculture and its development in poorer communities is very helpful in combating poverty and hunger in that it boosts shared prosperity and will help feed a projected 9.7 billion people by 2050.[29] Growth in the agriculture sector is two to four times more effective in raising incomes among the poorest compared to other sectors, according to the World Bank. A 2016 analysis found that 65% of poor working adults in the

[28]Gleditsch, Nils Petter, Centre for the Study of Civil War, PRIO & Norwegian University of Science and Technology, *Whither the weather? Climate change and conflict,* Journal of Peace Research, 2012
[29]Overview, The World Bank, Agriculture and Food, worldbank.org.

world made a living through agriculture.[30] The effects of climate change can be felt especially if a country's food security is already at risk to begin with. The risks are so high that as little as one unsuccessful harvest of a crop could cause more damage in a less developed country than a developed one, and this has lasting effects on local communities.

Through recent research there has emerged a quantifiable means to measure the stressors that climate changes create. For example, in the working paper, "Understanding the Climate-Conflict Nexus" conducted by the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) in May 2016[31], more than 20 countries were assessed for having a climate conflict connection. The majority were lower income or poorer countries that already had fragile infrastructures. The paper argues that it is well established that over the last 60 years, 40 percent of all intrastate conflicts have had links to natural resources and that specific regions within the Middle East, (i.e., Syria) have suffered from a scarcity of resources such as land or water (i.e., drought and displacement).[32] The paper makes an interesting contribution to the debate because it tries to forecast future conflict. Its motivations for trying to do so are also instructive. UNOCHA undertook this analysis because it forecasts that the need for humanitarian assistance--which has already increased 600% in the past decade--will increase dramatically again by 2030. Thus UNOCHA needs to get ahead of these problems whenever possible.The study creates a quantitative index to attempt to forecast the top countries with the highest risk of mainly internal, but possibly cross-border, conflict due to weather and the environmental effects of climate change. These 20 countries, which are located in South Asia, South-East Asia, and

[30] ibid.
[31] Grogan, Brian, *Understanding the climate-conflict nexus from a humanitarian perspective: a new quantitative approach,* OCHA Policy and Study Series, May 2016.
[32] ibid

Sub-Saharan Africa and have a total population of 780 million are listed in Appendix 2. This is a stunningly large number of people, especially when one thinks about the potential for possible "climate migrants." What is also unsettling is that Syria is not even listed in these rankings. Despite all of the global havoc that the Syrian war has created and all of the certainty by many researchers that there is a direct link in Syria between climate and conflict, Syria is not even among the top 20 of countries deemed to be *most* at risk for such a climate-connected conflict. The study shows that all of the countries are low income or low to middle income. This study emphasizes again that while many countries will face climate change effects, low and low to middle income countries will not have the resources available to deal with extreme events such as massive drought or flooding.

UNOCHA's analysis measures the intersection of vulnerability to climate change and institutional and socio-economic fragility. This is the formula that the authors think will predict conflict. The analysis combines a composite of two others. The first is the Resource and Climate Vulnerability Index (RCVI), which measures the risk of stressors, displacement, and resource scarcity due to changes in weather patterns (floods and droughts being the most destructive for personal property, infrastructure, and agriculture). The RCVI uses several variables as proxies to measure the possible destruction of capital, livelihood, and migration or displacement as a result. Those variables include things such as employment in agriculture as a percentage of the workforce, agriculture as a percentage of GDP, water withdrawals in the agriculture sector as a percentage of total withdrawals and total water resources per capita, changes in total water resources over a 20-year period.

The study then combines the RCVI index with the Institute of Peace's Positive Peace Index, which measures institutions, attitudes, and structures that maintain peace or allow for non-conflict resolution of grievances. Countries with unstable governments, unreliable government services, unequal distribution of resources, bad relations with neighboring countries, unfree media, a low-skilled labor force, and high corruption rank highest (highest being negative) on the PPI index. A central idea in the analysis goes back to the migration arguments mentioned before and the critical role of internal displacement of masses of people. First, these people are usually displaced to the country's own urban areas, then poverty, violence, and social breakdown occur, which help induce conflict.

The UNOCHA model is not a perfect tool to predict with certainty future conflicts and it has yet to definitively prove the climate conflict nexus. However, it at least allows development professionals and humanitarian assistance agencies to prioritize and stage some of their efforts in anticipation of potential conflict and to try to mitigate conflict, if possible.

To try and mitigate conflict, a report[33] from the University of East Anglia was the first to offer an established bridge linking climate change to conflict and then to cross-border migration. The report cites Syria as a major example. There is a long history of linking climate change with mass migration in the Middle East and in today's society it is especially becoming prevalent that we focus our efforts on the changing role that climate change is having in international migration. More and more this correlation between climate change and migration seems to be coming up in the world consciousness and not just in theory. What was once a term only scientists used is now commonly used by the UN and most NGOs as well as the one used in most common households.

[33] Abel, Guy, Climate, *Conflict and Forced Migration*, Volume 54, January 2019, Pages 239-249, Global Climate Change.

Syria as an example of the direct climate change conflict connection and keep coming back to it for a number of reasons. Not only does it come up in my research time and again as the number one example that activists, academics, and policymakers use when talking about the CCCC debate, but it also provides major lessons that can be used by policy makers and even as a case study, especially of the ways in which political, military, and development institutions might prepare for and adapt to the changing global climate. The Syria-climate change link has been widely invoked, for example, in discussions about Europe's migrant and refugee crisis, with European Commission President Jean-Claude Juncker[34] identifying climate change as one of the root causes of the new migration in Syria, others suggesting that those displaced Syrians arriving in Europe are climate migrants and climate refugees.

Much of the focus of newer studies on the relationship between climate change and conflict has been on internal and external migration patterns. The report "Climate Change and Conflict: The Migration Link, Coping with Crisis"[35] focuses on a key part of the puzzle, which is migration. The International Peace Academy published a working paper series in May 2007 called Climate Change and Conflict: The Migration Link.[36] Its researchers posit a scenario of rapid climate change that could result in a significant drop in humans' capacity to maintain their livelihoods. This decrease, they argue, could lead to political destabilization, skirmishes, and even war.

To add onto generally identifying the possible root causes of migration, an Iowa State University study titled "Climate Change Increases the Potential for Conflict and Violence,"

[34]Speech from State of the Union, European Commission, State of the Union 2015: Time for Honesty, Unity and Solidarity
[35]Gleditsch, Nils Petter, and Ragnhild Nordås. "Climate Change and Conflict: A Critical Overview." *Die Friedens-Warte* 84, no. 2 (2009).
[36] Salehyan, Idean; Ragnhild Nordås; & Nils Petter Gleditsch (2007) Climate Change and Conflict: The Migration Link, *Coping with Crisis Working Paper Series*. New York: International Peace Academy.

published in the journal *Current Climate Change Reports*, identified three ways climate change will increase the likelihood of violence, based on established models of aggression and violence. The first route, according to the article, is the most direct: higher temperatures increase irritability and hostility, which can lead to violence. The other two are more indirect and stem from the effects of climate change on natural disasters, failing crops, and economic instability.

To show that scientists are also weighing in on the climate-conflict debate, the World Meteorological Organization's (WMO) Chief Scientist, Pavel Kabat, briefed Member States on climate and extreme weather issues, explaining that climate change "is increasingly regarded as a national security threat." Kabat suggested that climate change is hindering progress in the United Nations Sustainable Development Goals(SDG's)[37] and has a multitude of security impacts of which include rolling back the gains in nutrition and access to food and increasing the potential for water conflict and will lead to more internal and external migration. As UNESCO reported in 2018,[38] climate change is making it harder for people to get natural resources. Combining climate change with the other pressures within a state that may already be fragile, creates a sense of instability for the individuals of a country. Very basic needs like food, water, and energy become scarce and the already fragile economy moves to the brink of collapse, making people angry and prompting protests and demonstrations. This has been the case with Syria.

Climate-induced conflicts[39] are more likely to be a bigger risk than the dated climate data. Further, conflicts offer a way to internalize or quantify on a personal basis the tangible effects of climate change as opposed the sensationalized scenario that "the polar ice caps are melting,"

[37] The Sustainable Development Goals (SDGs) are a collection of 17 global goals designed to be a "blueprint to achieve a better and more sustainable future for all. They were adopted in 2015 and the goal is to achieve them by 2030.

[38] Werrell, Caitlin, Femia, Francesca, Climate Change Raises Conflict Concerns, UNESCO Courier, UNESCO, February 2018.

[39] Finley, Nina, *Dust and blood: Climate-induced conflict fuels migration*, Mongabay News, News and Inspiration from the Frontline, 29 March 2019

which seems so far away both geographically and in time. This climate-conflict induced connection in broad terms is made more realistic through the use of examples of case studies. The situation in Syria is used by many researchers, policymakers and scientists alike to illustrate the climate change conflict phenomena because of its strong parallels to the outbreak of its ongoing civil war. For example, in an article published in *The Nation*, author Joshua Holland explains that there was more to the background of the Syrian Civil War than the much publicized uprising of 2011. Something was erupting back in 2006 that helped light the fire and it was prolonged drought. An extended dry spell created what one expert characterized as the worst long-term drought and worst set of crop failures since the beginning of agriculture in the Fertile Crescent many millennia ago.[40] So this could mean that climate change began a long time ago and cannot be attributed to the outbreak of the Syrian civil war. But the Assad government has also contributed to the already growing problem of absence of support and resources within Syria by not helping and sometimes even denying to the world there is a problem.

Direct links between climate change and violent conflict

The article Scientists Link Climate Change to Syrian War in *The Atlantic* details how severe drought in the northeast of Syria from 2007 to 2012, combined with the mismanagement of land and water resources by the Assad government, contributed to the degradation of more than 60 percent of Syria's agricultural and pastoral lands, and a massive internal displacement of people from rural to urban centers. This led to rising discontent focused at the Assad government. Four years of devastating drought beginning in 2006 caused at least 800,000 farmers to lose their entire

[40] Holland, Joseph, *Syria May Be the First Climate-Change Conflict, But It Won't Be the Last*, The Nation, October 2015

livelihoods and about 200,000 to abandon their lands.[41] Hundreds of thousands of Syria's farmers left their farms for cities and towns in search of jobs and even food. Outside observers, including UN experts, estimated that between 2 and 3 million of Syria's 10 million rural inhabitants were reduced to "extreme poverty."[42] As they flocked to cities and towns seeking work and food, these "economic" or "climate" refugees immediately found that they had to compete not only with one another for scarce food, water, and jobs, but also with the existing foreign refugee population. Desperate for livelihoods many once prosperous farmers were now competing to survive.

Many of the facets of the climate change conflict debate have similar characteristics. A common denominator in the climate-conflict debate is that most countries where we are seeing the similarities are poorer nations. These are generally places where there is an extreme weather occurrence and the resources or socio-economic structure is in place to handle such a crisis. In a video produced by the World Food Programme in 2018,[43] the WFP stated that extreme weather and prolonged conflict have caused Syria's agricultural production to hit its lowest point in three decades. For example, Colin Kelley, author of the study "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought" is quoted in a 2015 *New York Times* article, "Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change*,"* claiming that drought in Syria played a key role in the uprising in 2011. Kelley states that the severity and duration of the Syrian drought from 2005-2011 is very much a consequence of human interference in the climate system. The consequences are far more than just one region or conflict; the NYT article is also a study into the way humans interact when conditions are stressed.[44]

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[41] Werrell, Caitlin and Femia, Francesca, *Syria: Climate Change, Drought and Social Unrest*, The Centre for Climate and Security, February 2012

[42] Polk, William*, Understanding Syria-from Pre Civil War to Post Assad*, The Atlantic, December 10, 2013

[43] Video by World Food Programme, Erratic weather and prolonged conflict take toll on Syria's agricultural output. October 2018

[44] Fountain, Henry, (London, The Independent,2018), Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change*, The New York Times,* March 2, 2015.

Indirect links between climate change and violent conflict

Climate change is often described as a force-multiplying driver of conflict. The (UNOCHA) 2016-17 Policy and Studies Series argues that changes in temperature and precipitation levels and the increase in storms and major disasters eventually led to a lack of proper water and food scarcity in those areas that were vulnerable due to drought or instability. This vulnerability can lead to disease and can provoke mass migration from an area and then cause the new area to have too many "climate refugees."

Climate change can drive conflict stressors in multiple ways. Changing and severe weather patterns influence at least two stressors: the interruption of resource supply, leading to greater resource scarcity, and an increased natural disaster risk and its potential to trigger population displacement. These two factors, resource scarcity and population displacement, are influential factors in the climate-conflict nexus. This is particularly the case in underdeveloped, fragile, and low-income countries.

Volatile weather conditions have displaced millions of people in recent years. The Internal Displacement Monitoring Centre estimates that 17.5 million people have been displaced due to climatic events since 2014.[45] Additionally, increased levels of drought and changes to precipitation have increased levels of poverty and famine, and they have been linked directly to the conflicts in Sudan's Darfur region and in Syria. [46]

An article in *The Atlantic*[47] details the climate change conflict connection in Syria. It argues that severe drought in the northeast of Syria from 2007 to 2012, combined with the mismanagement of land and water resources by the al-Assad government, contributed to the

[45] Internal Displacement Monitoring Centre and Norwegian Refugee Council, Country Profile Syria
[46] Wehlan, Catherine, UNSC Debates Climate Change Impact on Peace, Security and Development , IISD, January 2019
[47] Polk, William, *Understanding Syria-from Pre Civil War to Post Assad*, The Atlantic, December 10, 2013

degradation of over 60 percent of Syria's agricultural and pastoral lands, and a massive internal displacement of people from rural to urban centers. The severe drought led to rising discontent focused at the al-Assad government. The article emphasizes that four years of devastating drought beginning in 2006 caused at least 800,000 farmers to lose their entire livelihood and about 200,000 to abandon their lands.[48] Hundreds of thousands of Syria's farmers left their farms and went to bigger cities and towns in search of jobs and even food. Outside observers including UN experts estimated that between 2 and 3 million of Syria's 10 million rural inhabitants were reduced to "extreme poverty"[49]. As people moved into the cities and bigger towns seeking livelihoods, the economic or climate refugees immediately found that they had to compete not only with one another for scarce food, water, and jobs, but also with the existing foreign refugee population. So desperate for livelihoods, many once prosperous farmers were now competing to survive.

Peter Gleick uses Syria for an example again in volume 6 of the journal *Weather, Climate, and Security*. Providing historical background on water and conflict, his journal article "Water, Drought, Climate Change and Conflict in Syria" goes into detail about the links of recent drought, agriculture, and water management stresses to conflict. Gleick points out that in addition to having relatively little overall freshwater in proportion to demands, Syria, the region as a whole, experiences high natural rates of access to freshwater.

To expand further on this point a report, in the Center for Climate Change and Security published several reports beginning in the early 2000s warning of the climate-related risks in

[48]Werrell, Caitlin and Femia, Francesca, *Syria: Climate Change, Drought and Social Unrest*, The Centre for Climate and Security, February 2012
[49]Polk, William, *Understanding Syria-from Pre Civil War to Post Assad*, The Atlantic, December 10, 2013

Syria. The February 2003 report [50] makes a compelling case that the consequences of climate change are stressors that can ignite a volatile mix of underlying causes that erupt into revolution. In Syria, for instance, as Femia and Werrell tell us, a combination of social, economic, environmental and climatic changes which are eroded by the social contract between citizen and government in the country, strengthened the case for the opposition movement, and irreparably damaged the legitimacy of the Assad regime.

Forecasting Climate-Conflict

The Center for Climate Change and Security has published several reports forecasting an environmental connection to the war in Syria. As early as the 2000s they warned of climate-related risks in Syria. There exists a report that gives traction to the Center for Climate Change and Security's report. The Stockholm International Peace Research Institute's November 2018 newsletter, "SIPRI Insights on Peace and Security," stated that there is context-specific evidence that climate change can affect the causes and dynamics of violent conflict in MENA region. Climate change can affect the causes and dynamics of violent conflict when there is a deterioration in people's livelihoods; it influences the tactical considerations of armed groups; elites use it to exploit social vulnerabilities and resources; and it displaces people and increases levels of migration. Making this further complicated, these mechanisms are often interlinked and more noticeable in some climatic, conflict, and socio-economic contexts than in others[51].

[50]Werrell, Caitlin E. and Femia, Francesco, The Arab Spring and Climate Change: Climate and Security Correlations Series, The Center for Climate and Security, February 2003

[51] Krampe, Florian, Dr. and Nordqvist, Climate Change and Violent Conflict: Sparse Evidence from South Asia and SouthEast Asia, SIPRI publications September 2018.

Chapters 1 and 2 have presented different schools of thought on the possible connection between climate change and violent conflict. While Chapter 1argues against a direct relationship, Chapter 2 argues for a direct relationship. These conflicts seem primarily to be local but may sometimes become linked to more large-scale conflicts. An important foundation is altered livelihood conditions, where absolute and relative resource scarcity seems to be important. The risks are particularly large in contexts with a history of violent conflict, where institutions that can manage and resolve conflicts are absent and because of new migration into the area there is a feeling of unrest, and where societies that directly depend on natural resources for their livelihoods now have less.

There is an even clearer relationship between natural disasters with severe humanitarian consequences, state fragility, and lack of capacity to absorb investments and climate finance. Still, fragile states do not rank very high in international processes and institutions dealing with disasters, environmental and climate issues as they are not influencing the global agenda in the same way that major international powers such as the US, Russia or China grab attention and concern.

In 2015, Amnesty International warned that Syria could be the "worst humanitarian crisis." Today it is still going on. It is true that there are many conflicts that could be attributed to climate change but what is unique with Syria is the combination of "the extreme dryness, combined with misguided agricultural and water-use policies of the Syrian government, [causing] crop failures that led to the migration of as many as 1.5 million people from rural to urban areas.[52] There is even an argument backed up by data that suggests major states have stopped fighting each other directly, but engage through other conflicts such as those within a country or a

[52]Syria: The Worst Humanitarian Crisis of Our Time, Amnesty International New Zealand, April 7, 2015

community or tribe. According to the article, Has Global Violence Declined? A Look at the Data [53] the US and Europe from 1900–1960, even with two world wars, saw less than 1% of their population in armed conflicts. In 2007, just 0.04% of deaths in the world were from international violence. If this data is correct, the world in 2007 was at least an order of magnitude safer than most prehistoric societies[54].

In its 2014 Quadrennial Defense Review, DOD labeled climate change as a "threat multiplier." Put simply, the stressors already present such as poverty, environmental degradation, political instability, and social tensions will only get worse due to climate change. DOD's United States Africa Command (USAFRICOM)[55] predicted that future humanitarian crises tied to drought and disease would lead to potentially destabilizing events in regions of Africa where the stressors are present.

[53] Koehrsen, Will, *Has Global Violence Declined? A Look at the Data,* January 2010, Data Toward Science
[54] ibid
[55] Edited by Francis, David J., *US Strategy in Africa,* AFRICOM, Terrorism and Security Challenges, Routledge Group, 2009

CONCLUSION

The debate over whether to link climate change with conflict is growing and gaining momentum. As this paper has explained, although many reputable authors and organizations have linked climate change with conflict, others maintain that the connection has been overstated. When thinking about all this and pondering over the research, it seems that most researchers, policymakers and academics do not deny climate change or its connection to conflict. Rather, what some say is that the evidence of a close relationship is complicated by contributing factors like political instability, drought, and lack of water resources. The CCCC argument is a tricky one to maintain, one that moreover largely depends on the conflict under scrutiny, one where you can vacillate back and forth depending on the conflict.

The arguments of the "no" camp in Chapter 1 are important to take into account as they have significant merits and help us to analyze the relationship of climate and conflict more critically. Chapter 2 presented arguments for climate change as a direct cause of conflict. The preponderance of the literature on the question of this relationship takes the pro-CCCC position. The pro-CCCC literature represents the research of NGOs, multilateral institutions, and military planners argues that climate change is a threat multiplier, and focuses on its effects on migration, agriculture, and security of the country. focused, metrics-based, etc. One important study by Stanford University[56] has come up with metrics that gauge the likelihood of climate change to cause violent conflict.

This project used the war in Syria as a critical test case of the state of the climate-conflict connection debate. It placed this conflict in a specific historical context in a specific period of

[56] Ryan, Devon, *Stanford-led study investigates how much climate change affects the risk of armed conflict,* Stanford News, June 12, 2019

time when 1) global understanding of and acceptance of climate change as a science moved more towards a consensus; and 2) international organizations, humanitarian organizations, and military and intelligence planners incorporated climate-conflict into their models and analyses. The academic, international organization, and government research regarding the climate-conflict connection in the case of the Syrian war advanced the overall field of study on both sides of the debate. Even though the research has not settled the debate entirely, what it has done is exposed us to some common misperceptions, for example that climate change is a far away problem.

There are some further conclusions we can draw from these studies. The development level of an area of the country has a huge influence on its ability to mitigate climate extremes and make sure it does not put into motion a sequence of events leading to a conflict. Countries that have a history of conflict exacerbate conditions and it is often large international institutions like the UN can manage or mediate conflict before it breaks out. The discussion of indirect links with preexisting conditions tells us that climate change and conflict can come together in a particularly destructive way in fragile states and societies in conflict. These are societies that are already vulnerable and often do not get the full backing of their governments.

Beyond the findings of the studies and where the arguments come out on the precise link between climate and conflict, there is much to learn from the other arguments that aren't so clear cut. For example, pre-existing views about climate change strongly influence this debate. There are some who are climate change deniers and who come to the overall debate with skepticism to begin with. These overall climate skeptics--for example, Francesca de Chatel and Jan Selby--are generally resistant to anything that would escalate the urgency of climate into the area of conflict because that implies that climate impacts security which many people consider a more legitimate

view. On the flip side, some might argue that the "pro" climate-conflict camp wants to connect conflict with climate change so that the issue of climate change will be taken more seriously by skeptical policy makers.

Politics and public opinion play a big role in this debate, too. Specifically, the Syrian conflict started during a time when the international community was already sensitized to, and grappling with, the climate-conflict connection. The previous test-run case for a climate-conflict connection, Darfur, has proven to be a weak one. This first test run disappointment presented some challenges when the climate-conflict connection was made again on Syria.

The Syrian war with its different factions and levels of complexity resulted in a global migration crisis, making the Syrian war example particularly significant. Politicians in Europe as well as the United States cited Syrian refugees as "climate refugees." In some cases, this newly emerging migration crisis may have helped their argument at home that governments have to help the refugees. In the case of European politicians, the now exploding migration crisis helped them try to make the case that they have to accept Syrian refugees in their home countries.

The debate also shows that it is hard to determine the ultimate winner of the debate when we are talking about weather events stemming from climate change. In particular, it is difficult to definitively prove that a weather event or a series of weather events truly led to the breakout of a particular war. Yet, on the other hand, it is hard to totally disprove that a climate-related weather event or series of events were threat multipliers that gave rise to conditions that led to conflict.

A further challenge highlighted by reading the studies is that many rely on social science arguments such as economic, political, military, and other factors working in conjunction with one another. Meanwhile, even hard physical science is disputed by some people in the larger

climate change debate. When social science arguments also are woven into the discussion, this makes even persuasive arguments harder to prove.

Another lesson from the research in Chapter 1 is that attributing too many conflicts to climate change, or attributing conflicts to climate change sloppily without real evidence, carries its own risks. Those risks include overlooking other real causes of or dominant factors leading to conflict (mismanagement of resources or government neglect, for example). And overstating the climate-conflict case can undermine the urgency of climate change in the eyes of climate skeptics who think that climate is being cited as the cause of every global problem.

This reference to the climate change and conflict connection raises the question of whether or not has there been enough evidence about a climate-conflict connection to date to sway major climate skeptics. It appears not yet. Even though the U.S. government's military planners are training for climate-conflict scenarios, the Trump Administration denies that climate is an issue, let alone plays a role in conflict. We are already seeing troubling signs that the factual basis of climate change is being disregarded. The recent California wildfires have been blamed on poor forestry management instead of climate, and the National Oceanic and Atmospheric Association's (NOAA) messaging on hurricanes' locations, strength, and path is misleading. It seems likely that these new emerging arguments will resonate while energy-industry support for the funding of 2020 reelection campaigns is on the line.

It may take a major domestic event in the United States to change minds, such as king tides starting to flood the Florida Everglades and salinating them. This localized home event could potentially lead to a massive migration from Florida to other states. Perhaps there are other scenarios like the California wildfires where, despite the United States' large financial and natural

resources there are still issues of scarcity, with the result of social unrest here in our own country. Perhaps then the administration will sit up and take notice.

Further studies into possible linkages between climate change and conflict are crucial for several reasons. Most importantly, studying a possible linkage is imperative because the studies conducted now have the potential to provide evidence to help prevent conflicts later.

Where does this leave humanitarian organizations and other international organizations who watch evidence of climate change mounting every day and seek to be proactive about dealing with the impact of climate change? Is any of the research that has been done regarding Syria or more generally on the CCCC debate to date useful to help *predict* conflict? We don't know for sure yet. There are some potentially effective predictive models out there such as the UNOCHA study, but they are not proven yet.

These studies do allow humanitarian organizations and development assistance agencies to try to predict what could potentially be an emerging conflict in a region and employ conflict mitigation techniques before it gets started. They can target resources and determine priorities among regions and countries. Many of these organizations are working to try and ensure overall resilience to weather or other shocks, political stability, and better resource management, especially for critical water supplies.

There is cause for hope that in some cases a possible climate-conflict connection can be avoided. However, financial support for such organizations, which are already depleted because they are managing multiple refugee situations, remains critical for the future. As well, fragile states do not have much leverage and negotiating power in international processes and institutions dealing with disasters and environmental and climate issues. For that reason, having more people

believe in the connection between climate change and conflict remains very important to motivate the big countries and private donors to support the massive, multi-year efforts that NGOs and assistance agencies implement to prevent conflict and address humanitarian crises in mainly developing countries.

Discussion around the nexus of climate change and conflict is ever evolving. One encouraging development was 2017 Resolution (#2349) the U.N. Security Council adopted in relation to climate change and conflict in the Lake Chad basin. This resolution explicitly identifies climate change as a contributing factor to instability in the Lake Chad region[57]. This was a unique step for the Security Council in that it was the first time the UN acknowledged the climate change and conflict connection and demonstrates that it is being taken seriously at the highest levels of global decision-making.

[57] United Nation Digital Library, Resolution 2349 (2017) / adopted by the Security Council at its 7911th meeting, on 31 March 2017.

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APPENDIX ONE:
Timeline of Milestones in the Climate-Conflict Debate

2003 Civil war begins in Darfur. International community begins to look at historical rainfall records and the potential role of climate change.

2007 Climate change and conflict discussed for the first time in U.N. Security Council. (Small island nations raise rising water concerns and China says the UNSC does not have the expertise to discuss the topic)

2007 Intergovernmental Panel on Climate Change links Darfur civil war to worsening climate and concludes that man-made climate change was contributing factor.

2011 Initial public protests that form official start of civil war in Syria

2012 Escalation of the Syrian civil war; 1.6 million refugees flee to Jordan and Lebanon

2013 U.N. Security Council discusses security implications of climate change

2013 More Syrian refugees escape to Iraq. Also start of a nearly 3.5 million Syrians escaping Syria into Turkey and beyond.

2014 Quadrennial Defense Review by the U.S. Department of Defense calls effects of climate change a "threat multiplier" that will aggravate stressors abroad such as political instability and social tension

2014 U.S. Intervention in Syrian civil war

2015 President Barack Obama and Secretary of State John Kerry attribute drought in Syria to climate change and call it a contributing factor to the start of the civil war.

2015 Pentagon reports to Congress that Syrian civil war is an example of how climate change can aggravate already fragile nations.

2016 U.N. Security Council discusses climate change and food security and climate change as a "threat multiplier" in countries with fragile governance and sparse resources.

2018 Bipartisan Conference Report on the 2018 National Defense Authorization Act calls climate change a direct threat to the United States impacting areas where the military operates and where there are strategic implications if conflicts break out.

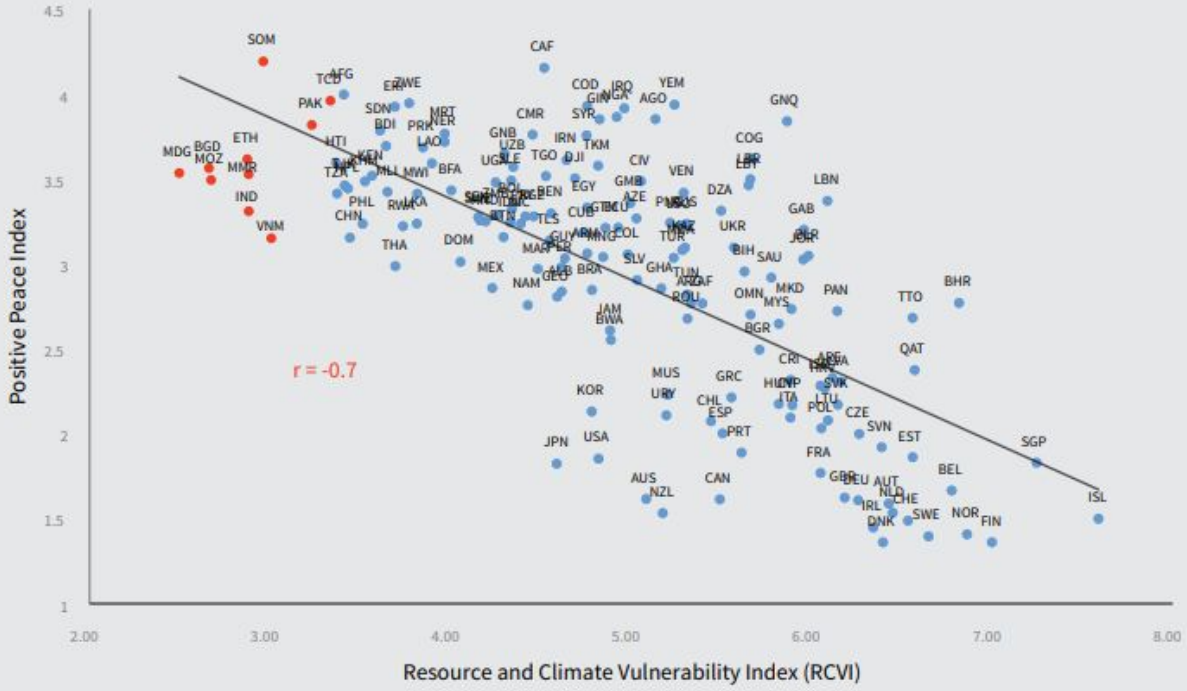
January 2019 – Central Intelligence Agency's Director of National Intelligence's Worldwide Threat Assessment includes Environment and Climate Change alongside Terrorism, Cyber Attacks, and other major threats

October 2019 - U.S. forces withdraw from buffer zone in Syria.

ANNEX TWO:
May 2016, UNOCHA Analysis

Figure 3: PPI versus the RCVI, 2014, r=0.70

Positive-peace measuring shows that the attitudes, institutions and structures that support resilience and peace are strongly correlated to social and economic vulnerability to climate change. This shows that many fragile and weak States are vulnerable to climate change-induced conflict. The 10 most vulnerable nations are highlighted in red.



ANNEX TWO CONTINUED:

Table 2: Twenty countries in the bottom quintile of both the PPI and the RCVI.

These countries are in the conflict-climate nexus. They score poorly on resource and climate vulnerability, and they currently lack the institutions, attitudes and structures that support a resilient society. They encompass some 780 million people.

Country	Positive Peace Index	Humanitarian appeal in the past 10 years	Resource and Climate Vulnerability Index	Population
Afghanistan	4.00	Y	3.41	30,551,674
Bangladesh	3.56	Y	2.66	156,594,962
Burundi	3.69	Y	3.64	10,162,532
Cambodia	3.49	N	3.53	15,135,169
Chad	3.96	Y	3.33	12,825,314
Eritrea	3.93	Y	3.69	6,333,135
Ethiopia	3.62	Y	2.87	94,100,756
Haiti	3.60	Y	3.37	10,317,461
Kenya	3.52	Y	3.56	44,353,691
North Korea	3.69	Y	3.85	24,895,480
Lao PDR	3.59	N	3.90	6,769,727
Madagascar	3.54	Y	2.50	22,924,851
Mauritania	3.77	Y	3.97	3,889,880
Mozambique	3.49	Y	2.67	25,833,752
Myanmar	3.53	Y	2.88	53,259,018
Niger	3.72	Y	3.97	17,831,270
Pakistan	3.82	Y	3.23	182,142,594
Somalia	4.19	Y	2.96	10,495,583
Sudan	3.79	Y	3.61	37,964,306
Zimbabwe	3.95	Y	3.77	14,149,648