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The Politicization of Climate Change and The United States Department of Defense

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The Politicization of Climate Change and the United States Department of Defense

by

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Abstract

Given the increasing political polarization within the United States, this paper attempts to explore how political discourse impacts the United States Department of Defense's (DOD) engagement with climate change. Analyzing personal communications, relevant literature, and DOD actions and documents, the results of this research found that the DOD engages with climate change across numerous fronts with different motivational forces. Of the various motivational forces, this research focuses on: (1) installation and operational concerns, (2) the Department's relationships with political administrations, (3) the Department's relationship with the Legislative branch, and (4) financial incentives.

Upon examining these four motivational forces, the findings of this preliminary research suggest that the DOD is aware of the partisan polarization surrounding climate change, and manages its engagement with climate change in a way that maximizes its freedom of action and funding. This has been specifically evident in the Department's use of climate change language. The DOD's approach to climate change falls in accordance with its mission and structure, and has allowed the DOD to avoid political partisanship. However, this strategy does not exempt the Department from the politicization of climate change. Moreover, given the phenomenon of climate change, the DOD will not be able to properly prepare for the future attention climate change warrants by continuing to avoid the political sensitivity surrounding this issue.

Samuel Huntington

To truly understand the purpose of this paper, it is essential to reflect on the book that inspired this research. Perhaps one of the most influential books on civil-military relations, *The Soldier and the State: The Theory and Politics of Civil-Military Relation* provides critical theoretical framework for civilian-military relations. Samuel Huntington (1957) depicts the military institution as shaped by two forces: (1) a functional imperative that derives from national security threats, and (2) a societal imperative that derives from social forces, ideologies, and institutions presiding within civilian society. Furthermore, there are two types of civilian-military relations: subjective control and objective control of the military by political leaders. Huntington argues that subjective control over the military is an impulse of American liberalism that attempts to force the military to reflect societal values; which in doing so hinders the military's autonomy (p.2).

Politics deals with the goals of state policy. Competence in this field consists in having a broad awareness of the elements and interests entering into a decision and in processing the legitimate authority to make such a decision. Politics is beyond the scope of military competence, and the participation of military officers in politics undermines their professionalism, curtailing their professional competence, dividing the profession against itself, and substituting extraneous values for professional values. The military officer must remain neutral politically...The area of military science is subordinate to, and yet independent of, the area of politics (p.71-72).

However, due to the United States' constitution and approach to civilian-military relations, Huntington acknowledges that the military cannot be fully autonomous to civilian controls and politics (Nix, 2012, p.89). Civilian-military relations operate on a spectrum between subjective and objective ends, which Huntington argues to be detrimental to military professionalism. Given the division of authority of the military between the Legislative branch and the Executive branch, military leaders are obligated to provide advice to both the political

administration and Congress; thus drawing them into the political realm (p.90). This political power has been most prominent in budget matters within Congress, as political leaders attempt to control the military through funding. Thus in order to operate effectively, the military must apply political acumen (p.90-92).

Huntington's work addresses the significance of civilian-military relations, and argues that militaries require objective-civilian control and military professionalism to maximize military security. Furthermore, Huntington raises the question of civilian-military relations, and the extent to which the military should be controlled. This theoretical framework of civilian-military relations lays foundation to the politicization of climate change and the DOD's engagement with climate change.

Partisan Polarization

In the United States, political debate persists on whether the causation of climate change is human-induced; the extent to which it warrants action; and for some, whether the issue exists at all (Mastroianni, 2015). It is critical to note that the politicization of climate change is a manifestation of broader partisan polarization. To understand the politicization of climate change within the United States, it is important to trace the broader political polarization it derives from.

In recent decades, ideological and political polarization has increased throughout the United States. A substantial amount of political discourse has cited the "party sorting" theory to explain this recent trend. The party sorting theory claims that political party activists induce a process of conflict expansion among political elites; which then leads to party sorting in the general public (Dunlap & McCright, 2011, p.162). Party activists have championed ideological polarization between political parties and politicians since the latter 1970s; with considerable

increase in the 1990s (p.163). “Party sorting is largely a top-down process wherein the more visible and active members of a party, especially its elected officials and party activists, sort first and provide cues to voters that party positions are evolving” (as cited in Fiorina & Abrams, 2008, p.581).

Research by Baldassarri and Gelman (2008) found that “opinion changes correspond more to a resorting of party labels among voters than to greater constraint on issue attitudes: Since parties are more polarized, they are now better at sorting individuals along ideological lines” (p.408). As this polarization has increased among both political elites and general public; ideologies have become increasingly aligned with partisan identification. Hence, as party affiliation and political identity have captured more value and significance, political and ideological polarization has intensified (Dunlap, McCright, & Yarosh, 2016). Furthermore, this polarization trend among the political elite has been respectively compelled by both liberal and conservative activists closely tied to the Democratic and Republican parties. As a result, this polarizing partisanship among ideological elites has transpired in the American public by forcing constituents to define themselves along partisan lines of political parties (McCright & Dunlap, 2011, p.178-180).

As environmental stakes continue to increase and political party affiliation becomes more significant to personal identity, partisanship will continue to polarize. In doing so, this partisan division will continue to diminish a common platform for effective collaboration and collective action between political parties. Furthermore, this ideological and political polarization has intensified on a new level that holds significant ramifications for long-term societal resilience. Even if this pattern slows and regresses in the next few years, the political divide within the American public will still be significantly larger than it was in 2001 (p.180).

Politicization of Climate Change

The politicization of climate change is but one manifestation of broader partisan polarization. As environmental concerns have gained significant relevance in recent decades, the politicization of climate change has taken root in those who support climate change action, and those who support climate inaction. Such ideological and political polarization regarding climate change can be traced back to the emergence of the environmental movement and the anti-environmental movement.

Beginning in the early 1990s, the environmental community began classifying global warming as a legitimate problem that warranted attention. Around the same time, the anti-environmental movement—championed by conservative foundations and conservative politicians—materialized in response to the rise of global environmentalism (McCright & Dunlap, 2011). The anti-environmental movement aimed to challenge and discredit efforts by the environmental movement that supported regulatory action (p.158).

Both the environmental movement and the anti-environmental movement initially relied on scientists for support. Natural scientists became a foundational component in the environmental movement, and have since continued to be instrumental to environmental efforts. The anti-environmental movement initially used “scientific expertise” to contradict the credibility of global climate change. However, the movement has since shifted to relying on a small number of “contrarian” scientists who challenge conventional climate science (p.158).

Efforts by the environmental movement focused on securing global warming a place on the national agenda. However, the door for the Clinton-Gore administration and the Democratic-majority Congress to commit climate change to the national agenda closed in the 1994 elections, in which Congress shifted from a Democratic-majority to a Republican-majority. This new

congressional majority challenged environmental science and policy. Congressional Republicans were quick to exert a full-frontal attack on climate change. They aimed to discredit the peer-reviewed work of scientists, while also emphasizing the non peer-reviewed work of contrarians (p.158). Research by McCright and Dunlap (2011) found that educational attainment and self-reported understandings on climate science are positive for liberals and Democrats, but weaker or negative for conservatives and Republicans (p.178-179).

This conservative shift in American political culture also provided opportunities for the conservative movement to contest climate science and policy through mainstream media. Conservative think tanks and climate change contrarians exploited media norms to create a biased media that echoed climate change skepticisms. As a result, American newspapers were more likely to depict climate science as “uncertain” than newspapers in other developed nations. The American public was also reported to be less knowledgeable about the causes of global warming, and to be less supportive in comparison to their European peers of the Kyoto Protocol (p.159).

Various other studies also suggest that polarization has been caused by systematic efforts to spread climate change skepticisms through media sources. Research by Carmichael, Brulle, & Huxster (2017) examine the polarized views on climate change through an analysis of partisan shifts at an aggregate level of opinions between 2001 and 2014. Their results revealed that media outlets are capable of strengthening beliefs of recipients when the content paralleled receivers’ pre-existing views. Other results found that when media sources depict climate change in ways that are not compatible with recipients’ pre-existing sentiments, rather than conceivably assessing and amending their opinions, their preconceived beliefs would be strengthened (p.610).

The research also found that the spreading of climate science raised concerns about climate change among Democrats, but had little to no weight on Republicans. When Republicans were presented with antithetical coverage about climate change, they were reported to rebuff the content. However, results also found that when relatively moderate television networks increased climate change coverage, Republicans reported an increased level of concern about climate change. The significance of this research suggests that when media coverage on climate change is represented on politically neutral channels, Republicans may be more receptive to reevaluating their views (p.612). These findings are consistent with the “boomerang” or “hostile media” effect; in which audiences are presumed to reject coverage that conflicts with their pre-existing views; specifically, when they assume media coverage to be politically biased (p.611).

But it is also critical to note that the politicization of climate change within the United States is not immemorial. In 1989, the Gallup Organization conducted a poll surveying respondents on “how worried they are about global warming.” The results found that partisanship on this topic were practically nonexistent; 67% of Democrats and 66% of Republicans reporting that they were “worried a great deal or fair amount about global warming” (p.601). In 2001, Gallup repeated the same poll and showed that a considerable partisan gap of 27% had appeared. In 2010, Gallup again repeated the same poll and found the gap had increased to 42%. In 2016, Gallup found that this gap had further expanded to a 44% divide; Democrats reporting an 84% level of concern, and Republicans reporting a 40% level of concern (p.601).

In this regard, Dunlap and McCright (2016) note:

In short, the results indicate that the substantial partisan polarization that had rapidly built up in the first eight years of the new millennium has not abated, but has actually grown, since 2008. The increased level of political polarization in the Obama era is apparent in the area of climate change, with already large partisan gaps in views of global warming growing still larger over the past eight years. While the gulf between self-identified Republicans and Democrats in the general public may not match the chasm between elites in the two parties

(elected officials, candidates, and activists), it is clearly substantial and shows no signs of diminishing (p.158-159).

According to Joshua Busby, an associate professor and distinguished scholar at the Robert S. Strauss Center for International Security and Law, the issue of climate change has been elevated as a partisan signifier; forcing people to rally around their political party's stances rather than evaluating climate change from a factual side. "Partisanship is powerful. It is hard to get out of that box when it has been politicized in such a way" (J. Busby, personal communication, February 3, 2017).

Climate Change Language

It is also critical to highlight that the politicization of climate change has transpired in climate change dialogue. Since the late 1990s, research on climate change communication and its effects on the general public has significantly increased. Yet, as climate science has become more evident and credible, the American public continues to be susceptible to climate variability. This being so, raises uncertainties about the effectiveness of climate change communication efforts, and the potential for climate dialogue to create change. Much of climate change dialogue has focused on issues of uncertainty—specifically on whether the causation of climate change is human-induced (Nerlich, Koteyko, & Brown, 2010, p.88-89).

Although 97% of active climate scientists accept anthropogenic climate change to be true (Cook et al., 2016), lingering skepticisms remain within the United States. Scientists have expressed that the symptoms of climate change will manifest in higher temperatures, sea level rise and extreme weather events (Busby, 2016). Yet, despite the large body of accumulating

scientific evidence that projects potential devastating scenarios, climate change continues to be one of the most politically charged topics of the 21st century. Communications about climate change have recently shifted from convincing people that climate change is real, to persuading people the need to implement practical measures to treat it (Nerlich et al., 2010, p.99).

This uncertainty is due to the complexity of the phenomenon of climate change. Given the disproportional effects of climate change; and the unique social, political and economic aspects of a given area; it is difficult to determine the precise times, effects and locations in which symptoms will transpire. The uncertainty of climate change has shifted the issue from existence to complexity. “Climate change poses risks to humanity but risks that are still for many largely ‘virtual’ risks rather than real ones... people are thus liberated to argue from, and act upon, pre-established beliefs, convictions, prejudices and superstitions” (p.99). Thus, climate change has shifted from the scientific realm to the political domain.

In this regard, Hulme articulates that climate change communication surpasses scientific dialogue on climate change as a physical reality. Communicating about climate change warrants an “upper-case climate change phenomenon”:

Climate Change as a series of complex and constantly evolving cultural discourses... We disagree about Climate Change because we disagree in quite fundamental ways about the nature of the risks posed and about what constitutes appropriate responses. Moreover, these disagreements can be traced back to things that matter very deeply to us. They emerge from our different perceptions and tolerances of risk; from our faith in, or suspicion of, the technological genius of human engineers and innovators; from the different views we hold about the role of the state in the regulation of individual freedom; from the ways we value the natural world relative to the human world; from the beliefs we hold about the autonomy of human action relative to the idea of a divine Creator... We need to use the idea of Climate Change - the matrix of power relationships, social meanings and cultural discourses that it reveals and spawns - to rethink how we take forward our political, social and economic projects over the decades to come (Hulme, 2007).

The complexity of climate change dialogue is two-fold; based on the complexity of climate change itself, and the complexity of its language (Nerlich et al., 2010, p.3).

Research by Bain et al., (2012) suggest that climate change deniers are more likely to support pro-environmental actions if the efforts result in economic or technological benefits, or make people more considerate. Thus, framing climate change action by emphasizing how mitigation efforts may create a better society may be more effective than emphasizing the reality and risks of climate change (p.600). This emphasis on climate change communication will be further elaborated on in the following sections.

Climate Change as a National Security Threat

Unlike traditional national security threats, climate change derives less from the relationships among nation-states, and more from the relationship between humanity and the environment. Continuous environmental devastation and the projected implications of climate change threaten not only the security of the United States, but also the security of global society. The present and future projections of climate change have advanced this issue to recognition as a security threat to the future existence and stability of nation-states (Srikanth, 2014; Conca & Dabelko, 2014). This section focuses on how the DOD interprets climate change as a national security threat, as well as their engagement with climate change.

The mission of the United States Department of Defense is: “to provide the military forces needed to deter war and to protect the security of our country” (United States Department of Defense, 2017). All efforts and actions by the DOD are in accordance with their mission. The responsibilities of the defense sector include: “overseeing, directing, and controlling the planning for and employment of global or theater-level military forces and the programs and operations

essential to the defense mission” (United States Department of Defense, 2015a, p.5). The defense sector is always advancing its capacity, capability, and resiliency to prepare for and deter future threats.

In regards to climate change, the Department maintains a decisive role at the prognostic level that focuses on a general readiness and development of resiliency towards potential climate change symptoms. The DOD engages with climate change because its symptoms impact their missions and business operations. The defense sector has integrated climate change into their operational and strategic planning in order to allow them to plan for the changing global security environment (Von Lucke, Wellmann, & Diez, 2014, p.859). Given that traditional security concerns have been violent conflicts or direct threats, the primary response to treat security threats have primarily been short-term adaptation or intervention (p.874). However, the phenomenon of climate change requires long-term mitigation and collective action; warranting military actions that go beyond the orthodox artifices of war (Scott & Khan, 2016, p.85).

It is crucial to note that the defense sector is not focused on the phenomenon of climate change, but rather the manifestations of it that constitute security threats. The DOD is preparing to cope with climate change’s secondary effects, rather than preventing the direct causation of climate change itself (Von Lucke et al., 2014, p.873). This approach enables the Department to engage with climate change by using long-term approaches for counter-actions (p.866-867). Thus, the Department does not treat the phenomenon of climate change, but rather the manifestations of it that warrant immediate action. In doing so, the DOD has been able to avoid political sensitivity by treating symptoms of climate change, rather than the root of the issue.

According to General Adams, climate change is a national security issue because: (1) it creates problems in terms of DOD strategy, and (2) it changes the way the DOD operates during peacetime:

Changing climate alters the strategic operational environment, and the military must adapt to these changes...In terms of the way we operate during peacetime, military bases along the coasts are becoming vulnerable as sea level rises. Some facilities will have to change, and either be abandoned or moved. The problem of urgency during peacetime cannot move during conflict. The military is looking ahead and that is why climate change is a national security issue...The military is primarily focused on what do we do to accomplish the mission. Climate change can be classified as a threat but also changing strategic factor. The military examines climate change as practically and realistically as it would for any other threat; to plan. The military does risk analysis of the effects of climate change on the United States.... For the military, [climate change] is not a political issue (J. Adams, personal communication, February 7, 2017).

According to Rebecca Patton, whom provides policy support on climate change adaptation and resiliency to the DOD, the defense sector is treating climate change in a measured and pragmatic manner. The Department is attempting to stay a step ahead, but not to the extent that it is over reactionary. The DOD is focused on risk management and addressing current risks. Patton also noted that “climate change is not a Washington problem.” The significance of climate change is its impacts on the DOD:

The challenge is making everyone aware and tracking the effects of climate change. Climate change is embedded within the operations and planning of the Department. The Department does not ‘do’ climate change; they do projects and buy equipment to do their mission...A central concern of the Department is ensuring the time scale of infrastructure and weapon structure match with the changing climate. Whether investing and buying these things with expectation of minimum 50-year life, the risk comes from changing climate during that operational time. This not only challenges the design and development for engineers, but also challenges explaining to those in management and Congress...We are trying to quantify this risk, and design the most resilient system that will last over a long changing frame (R. Patton, personal communication, February 9, 2017).

Thus, the association between security and climate change is often used to justify expansion of military activities and budgets. The DOD engages with climate change due to functional imperatives. That being, the Department is not treating the foundational causes of climate change, but rather the manifestations of it that constitute security threats. However, as previously noted by Samuel Huntington (1957), the DOD is also shaped by societal imperatives and subjective control by political leaders. In order for the DOD to maximize its freedom of funding and action, the Department modifies its use of climate change language contingent upon a given societal imperative. The following sections detail four motivational forces in which the DOD has been found to modify its language on climate change in order to maximize its latitude. Although the DOD has been able to avoid political sensitivity but applying this approach, they are not exempted from the politicization of climate change.

Installation and Operational Concerns

Climate change constitutes a national security threat in two main forms: as a *direct* threat to US homeland, and as an *indirect* threat to foreign interests (Busby, 2016, p.8). The primary direct threat regards domestic installations and infrastructure. As the DOD plans for the future implications of climate change, the Department will need build climate resiliency into their domestic installations and infostructures.

Norfolk Naval Base

Low-lying military installations are particularly vulnerable to rising sea levels and extreme weather events (Scott & Khan, 2016, p.83). 129 domestic coastal military installations are already predicted to be threatened by a three-foot sea level increase (Union of Concerned Scientists, 2016, p.1).

Norfolk Naval Base (NB) is the largest naval base in the world. It is home to the majority of the US Atlantic fleet, and is critical to military readiness. Due to Norfolk's geographical location, the naval base is highly susceptible to symptoms of climate change. Much of Norfolk NB is located less than 10 feet above sea level. A recent analysis published by the Union of Concerned Scientists (2016) predicts sea levels surrounding the area of Norfolk, Virginia to rise 4.5 to 6.9 feet by the end of the century. Norfolk NB is predicted to experience tidal flooding in certain low-lying areas, flooding during extreme high tides, storm surge flooding, and loss of land as tidal zones expand (p.2).

In 2003, Hurricane Isabel, a Category 2 storm, flooded around 6% of the base. In 2011, Hurricane Irene, a Category 1 storm, generated a 7.5-foot storm surge to the base. Although the seawall and bulkhead at Norfolk NB issued some protection, Category 2 storms have the potential to raise enough water to severely damage the base's four harbor installations (p.2).

The example of Norfolk NB illustrates how the DOD engages with climate change in regards to installation concerns. As the military prepares for the changing environment, their future investments in both domestic and foreign installations and infrastructures will have to take into account climate change effects that are expected to increase and/or worsen in the upcoming decades.

Fuel Convoys

The DOD will also have to study how future implications of climate change will impact military missions and operations abroad. This section further discusses the DOD's engagement with climate change by focusing on the issue of fuel convoys in Afghanistan and Iraq.

The reliance on fossil fuels subject the US Armed Forces to security threats such as: supply shortages, insurgent attacks on fuel convoys and erratic fluctuations in the cost of petroleum (Fitzpatrick, Freed, & Eoyang, 2011, p.2). In the case of Afghanistan, poor highway conditions made transportation of fuel slow and dangerous. Given that the primary source of fuel transportation was by convoy vehicles; convoys were highly vulnerable to insurgent attacks (Hudak, 2013).

James Mattis was one of the initial military leaders to bring the issue of fossil fuel reliance to the forefront of debate. The concept “unleash us from the tether of fuel” was coined by Mattis following his Operation Iraqi Freedom (OIF), in which he served as Commanding General of First Marine Division. Mattis’ forces frequently exceeded their fuel supplies; slowing their advancement. During the succeeding occupation, transportation of fuel to US operating bases was one of the military’s most high-risk tasks (Wolff, 2016). Mattis’ challenge was assumed by John Young, then by the Assistant Secretary of the Navy; who then directed the Naval Research Advisory Committee (NRAC) to identify and assess technologies for reducing fuel consumption and exploring alternative fuel sources (Andrews et al., 2006, p.3-5). In 2006, the NRAC released a report that addressed the problems of military reliance on fossil fuels.

In July 2006, Marine Corps General Major Richard Zilmer, then Commander of Multinational Force West in Iraq, submitted an urgent operational needs statement requesting for alternative energy sources (Eady et al., 2009, p.1):

By reducing the need for Class III (petroleum) at our outlying bases, we can decrease the frequency of logistics convoys on the road, thereby reducing the danger to our Marines, Soldiers, Sailors and Airmen to augment our use of fossil fuels with renewable energy, such as photovoltaic solar panels and wind turbines so that fewer troops would die guarding fuel convoys in the theater of war (Light, 2014, p.914).

From FY 2003 to FY 2007, more than 3,000 Army personnel and Army contractors were wounded or killed in Iraq and Afghanistan due to attacks on convoy vehicles (p.893). In 2010 alone, convoys were attacked on 1,100 occasions. In both Iraq and Afghanistan, the challenges of protecting fuel convoys warranted reductions in fossil fuel consumption and transition to alternative energy sources. These circumstances motivated the DOD to apply alternative strategies to avert the severe threat of insurgent attacks on convoys (p.894). “There is an innovation pull,” stated Assistant Secretary of Defense Sharon Burke; “We need to fight a war—the question is how do we do that. This is more likely to stimulate innovation than in a vacuum or for the abstract goal of energy efficiency—we have a specific problem to solve” (p.895). Thus, framing climate change as a national security framework—in which military capacity, capability, and readiness are the sole purposes for action—has the ability to create innovation through specific scenarios (p.895).

The politicization of climate change came to the forefront of civilian-military relations over a controversial provision to the Energy Independence and Security Act of 2007. The provision prohibited federal agencies from purchasing petroleum from any source that emitted more greenhouse gas (GHG) emissions over its lifecycle than conventional petroleum. The defense sector supported the provision. Repeal of the provision would allow the DOD to purchase petroleum from Canadian tar sands, which would advance the goal of energy independence, but prolong reliance on fossil fuel.

In response to the House Bill to revoke the provision, Elizabeth King, Assistant Secretary of Defense for Legislative Affairs, wrote:

Repeal or exemption could hamper the Department’s efforts to provide better energy options to our warfighters and further increase America’s reliance on non-renewable fuels. Our dependence on those types of fuels degrades our national security, negatively impacts our economy, and harms the environment (p.918).

In 2009, the Army Environmental Policy Institute released a report that calculated the casualties of soldiers and civilians killed or wounded while transporting fuel for FY 2007 in Afghanistan and Iraq. The study found that one casualty occurred for every 24 fuel-related resupply convoys in Afghanistan (Eady et al., 2009, p.i); and one casualty occurred for every 38.5 fuel-related resupply convoys in Iraq (p.6).

In April 2011, the Taliban announced that it would execute a “spring offensive,” which involved attacks on American fuel convoys within Afghanistan (Fitzpatrick et al., 2011). In the following month, militants destroyed over a dozen fuel convoys; causing 15 deaths in the process. In response, Navy Secretary, Ray Mabus stated: “Fossil fuel is the No. 1 thing we import to Afghanistan, and guarding that fuel is keeping the troops from doing what they were sent there to do, to fight or engage local people” (p.3).

In this regard, Sharon Burke, Assistant Secretary of Defense for Operational Energy Plans and Programs, also stated:

The key end goal is the mission—you have to be able to explain that we won’t succeed in the mission if we don’t reduce demand. This is not about energy efficiency in the abstract. We are a place with a job to do. If you are a business, you are trying to sell a product or make a profit. Here, we have the mission. Our goal is to lower the threat by reducing demand. Lower cost is important, but it’s not enough (Light, 2014, p.893).

In May 2012, Republican Senator James Inhofe presented a report that documented from FY2008 to FY2012, the federal government had spent approximately \$68.4 billion on “climate change activities” (p.919). Sen. Inhofe stated: “In reality, it is President Obama’s war on affordable energy that is having a dramatic impact on our national security, a war that is further depleting an already stretched military budget and putting our troops at risk” (p.920). Sen. Inhofe argued that the government should support energy independence by pursuing activities such as: approving the Keystone XL pipeline, promoting domestic hydraulic fracturing and permitting

federal agencies to purchase petroleum products that have a higher GHG emissions than crude oil (p.920). However, Sen. Inhofe's criticism neither acknowledged the security threats of transporting fuel to operating bases in sensitive areas, nor the correlation between decreased transportation of fuel and reduced casualties (p.921).

In the case of fuel convoys in Afghanistan and Iraq, the DOD advanced efforts to transition from fossil fuel reliance to alternative energy sources solely based on their mission. When receiving pushback from the Legislative branch over efforts towards alternative energy, the DOD justified its actions by reasoning the vulnerability and high amounts of casualties directly linked to reliance on fossil fuels. The Department also levied that transporting fossil fuels hindered their capacity, capability and readiness. Thus, the DOD was able to advance efforts towards renewable energy in a nonpolitical manner.

Relationships with Political Administrations

As noted in the previous section, politicians are key components to the politicization of climate change. This section focuses on previous political administrations—specifically George W. Bush (2001-2009) and Barack Obama (2009-2017)—in regards to climate change policy. Examining the transition from a Republican to Democratic political administration helps to explain how the DOD alters its language on climate change depending on relationships with political administrations.

Federal environmental policy officials have long been aware of climate change. In 1970, the first report by the Council on Environmental Quality contained a chapter on global warming and climate change. However, it was not until two decades later that global diplomacy began to focus on this issue. In 1992, President George H.W. Bush attended the Rio Earth Summit;

joining leaders of 153 other nations in signing the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC established an extensive negotiating process for developing methods to reduce GHG emissions (Percival, 2014, p.139). The US Senate unanimously ratified the UNFCCC on October 7, 1992; being the first developed state to do so. President George H.W Bush pledged that the US “will reduce projected levels of net greenhouse gas emissions in the year 2000 by as much as eleven percent” (p.140).

In December 1997 at the third UNFCCC, the Kyoto Protocol was reached. Under Kyoto, the United States was required to reduce its GHG emissions by 7% from 1990 levels during 2008 to 2012. Though Vice President Al Gore played a critical role in the Kyoto negotiation process, the UNFCCC failed to attain a commitment from developing nations for GHG reductions. President Clinton never submitted the Kyoto Protocol for ratification, and the election of George W. Bush ended future climate diplomacy possibilities (p.140).

Prior to being elected, George Bush announced during his campaign that he would “require all power plants” to control carbon emissions. Bush promised “mandatory reduction targets” would be applied to entities with high levels of GHG emissions. However, after just 52 days of assuming office, Bush abandoned this campaign pledge due to pressure from conservative senators in the Republican party (p.141). Numerous allegations have also accused the Bush administration of: censoring; suppressing and dismissing federal scientists; manipulating the government’s science advisory system; and ignoring, distorting, altering, and selecting government reports and scientific evidence that best served their interests—all of which can be deemed as ‘abusing’ science (McCright & Dunlap, 2010a, p.101).

In February 2004, a secret report blocked by US defense chiefs and obtained by The Observer was released to the public. The report warned that major European cities will sink due

to rising sea levels. The report predicted that climate change could push the planet to the edge of anarchy; as nations would develop a nuclear threat to defend and secure diminishing resources. The Pentagon's analysis concluded: "disruption and conflict will be endemic features of life...Once again, warfare would define human life." The secret report was commissioned by Pentagon Defense Adviser, Andrew Marshall (Townsend and Harris, 2004). The significance of Marshall commissioning a secret report illustrates the political administration's ability to suppress the DOD from integrating climate change content into public DOD documents. The release of the secret report humiliated the Bush administration and signified the challenges between subjective control by the political administration over the military.

It was not until the election of Barack H. Obama that seismic changes regarding climate change occurred (Erickson, 2016, p.9). Upon assuming office, Obama quickly integrated climate change into national security planning documents (Busby, 2016, p.4). Within less than a year of assuming office, Obama released the first of numerous Executive Orders, which called for action towards climate change. Executive Order 13514 and the Interagency Climate Adaptation Task Force paved way for the Obama Administration to direct Executive agencies to incorporate climate change adaptation and resiliency into operational and strategic planning (p.4-6).

In May 2010, the Obama administration released their first National Security Strategy (NSS). The strategy directly confronted climate change stating:

The danger from climate change is real, urgent, and severe. The change wrought by a warming planet will lead to new conflicts over refugees and resources; new suffering from drought and famine; catastrophic natural disasters; and the degradation of land across the globe. The United States will therefore confront climate change based upon clear guidance from the science, and in cooperation with all nations—for there is no effective solution to climate change that does not depend upon all nations taking responsibility for their own actions and for the planet we will leave behind (United States White House, 2010, p.47).

The NSS detailed both domestic and foreign policy climate change goals. The DOD followed these requests in the NSS, and detailed the risks of climate change in its 2010 Quadrennial Defense Review (QDR). The 2010 QDR the DOD depicted climate change as a problem to be managed, rather than an issue to be resolved (Erickson, 2016, p.10).

Climate change and energy will play significant roles in the future security environment. The Department is developing policies and plans to manage the effects of climate change on its operating environment, missions, and facilities. The Department already performs environmental stewardship at hundreds of DoD installations throughout the United States, working to meet resource efficiency and sustainability goals. We must continue incorporating geostrategic and operational energy considerations into force planning, requirements development, and acquisition processes (United States Department of Defense, 2010, p.xv).

The QDR also noted the need to move towards more effective energy stewardship, as well as working towards more environmentally suitable facilities and organizations (Erickson, 2016, p.10).

In 2011, the National Military Strategy (NMS) examined how climate change may affect global demographics. The NMS detailed concerns over increasing demographic trends in the developing world, and the potential effects that climate change may have on these areas. The document stated: “The uncertain impact of global climate change combined with increased population centers in or near coastal environments may challenge the ability of weak or developing states to respond to natural disasters” (as cited in Erickson, 2016, p.10). The strategy raised concerns that developing states with increasing populations and limited resources may be impacted by future climate change effects.

In this regard, Admiral Michael G. Mullen, Chairman of the Joint Chiefs of Staff (JCS), expressed: “The uncertain impact of global climate change combined with increased population centers in or near coastal environments may challenge the ability of weak or developing states to respond to natural disasters” (p.10-11). The JCS noted that a billion new people living in

underdeveloped coastal areas may be impacted by climate change. But other than the statement of strategic risk, the JCS did not further elaborate on climate change.

The reelection of President Obama secured climate change a place embedded in DOD strategic planning. The Department continued releasing policy that recognized climate change and its risks to DOD operations. In the 2014 QDR, the DOD noted the significance of climate change, and reinforced the Department's commitment to studying how symptoms of climate change will impact future missions and operations (United States Department of Defense, 2014b, p.vi):

The Department will remain ready to operate in a changing environment amid the challenges of climate change and environmental damage. We have increased our preparedness for the consequences of environmental damage and continue to seek to mitigate these risks while taking advantage of opportunities (p.25).

The QDR also recognized the severity of climate change: "As greenhouse gas emissions increase, sea levels are rising, average global temperatures are increasing, and severe weather patterns are accelerating" (p.8). The QDR noted that climate change will act as "threat multipliers that will aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions – conditions that can enable terrorist activity and other forms of violence" (p.8).

In 2013, President Obama issued Executive Order 13653, *Preparing the United States for the Impacts of Climate Change*. This order established a federal policy framework for climate change and mandated an update to federal climate adaptation plans within 120 days (Erickson, 2016). The order also established an Interagency Council on Climate Preparedness and Resilience. The order listed three key pillars that direct the development and operation of climate adaptation plans: (1) Reduce carbon pollution to avoid unmanageable consequences; (2) Adapt

by preparing for the effects of climate change; (3) Lead global efforts to mitigate climate change and prepare for its global impacts (p.12-13).

Following this order, the DOD published its 2014 *Climate Change Adaptation Roadmap*. In the foreword, Secretary of Defense Chuck Hagel, reinforced that the DOD accepts climate change as a threat multiplier (p.12). Hagel noted that although future climate projections remain uncertain, there is no justification for delayed action. Hagel also reiterated that the DOD is focused on climate change impacts, rather than the issue of climate change itself. “Climate change is a long-term trend, but with wise planning and risk mitigation now, we can reduce adverse impacts downrange” (United States Department of Defense, 2014a).

The roadmap established three adaptation goals: (1) Identify and assess the effects of climate change on the Department; (2) Integrate climate change considerations across the Department and manage associated risks; (3) Collaborate with internal and external stakeholders on climate change challenges (p.1). In response to the roadmap, Principal Deputy Under Secretary of Defense John Conger, stated:

There are plenty of things we can do to mitigate the risk, but in order to mitigate risk, you have to recognize that it exists.... We are trying to do a job here to protect the country, and this is one of those trends that might affect our ability to do that...We cannot ignore it. We need to be aware of the risks that it poses (Simeone, 2014).

The roadmap credited the DOD’s Senior Sustainability Council with responsibility to direct strategy development and organize initiatives. In addition, a subordinate Climate Change Adaptation Working Group, was credited responsible of implementing climate change requirements established by Executive orders. The roadmap highlighted the need for the DOD to modify existing plans and operations—in order to assess the effects that climate change may have on DOD operations and missions. Overall, the roadmap was a foundational piece in creating a method for self-assessment that accounted for the current and future implications of

climate change that needed to be integrated into DOD strategic and operational planning (Erickson, 2016, p.14).

Examining the DOD's relationships with various political administrations illustrates how political administrations are able to influence the Department's engagement with climate change. As shown in the transition of political administrations; the shift from a Republican to Democratic President played a substantial role in the DOD's ability to publically integrate climate change adaptation and resiliency into its strategic planning. During the Bush administration, DOD efforts towards climate change were practically nonexistent in high-level security guidance. But once the Obama administration came to power, the DOD was pushed to integrate climate change adaptation into strategic planning.

This variation in the Department's ability to integrate climate change into their strategic policy is significant to the Department's engagement with climate change. If the DOD is not able to integrate climate change into their strategic planning and operations, they will not be able to properly prepare for the future implications of climate change. According to Rebecca Pincus, it is difficult to assess how the politicization of climate change affects the DOD's behavior. However, given that the DOD follows its own Defense Directive and high-level security guidance, one can understand that these high-level security documents guide DOD behavior (R. Pincus, personal communication, April 4, 2017). Thus, if the Department is unable to integrate climate change into the high-level security documents that direct their actions, how can one expect the DOD to properly adapt to the changing global security environment?

Relationship with The Legislative Branch

As detailed in previous sections, the Legislative branch can impact the political administration's efforts towards climate change, and in doing so, also impacts the DOD. Like

political administrations, the DOD’s climate change language is modified depending on whether the congressional majority is Democratic or Republican. This section focuses on how the Legislative branch attempts to control the DOD—specifically through funding.

Republican inclination to deny climate change has often been reinforced by large contributions from fossil fuel and other high GHG emitting industries. For instance, in the 2010 mid-term elections, the Koch Brothers spent \$1.3 million on congressional campaigns to shift the majority in the House of Representatives from Democratic to Republican. Their efforts paid off, and once the House became Republican-majority; 156 members of the House signed the “No Climate Tax Pledge” (Mayer, 2013). Such efforts exemplify the politicization of climate change in the Legislative branch; Congressional Republicans have been incentivized to promote climate inaction. More importantly, Republicans’ primary source in preventing climate action has been in budget battles that attempt to cut and/or block funding for climate change activities in federal agencies (Dunlap & McCright, 2015, p.316).

In 2014, House Republicans attempted to block the DOD from using funds to treat climate change concerns. The amendment stated:

None of the funds authorized to be appropriated or otherwise made available by this Act may be used to implement the U.S. Global Change Research Program National Climate Assessment, the Intergovernmental Panel on Climate Change’s Fifth Assessment Report, the United Nation’s Agenda 21 sustainable development plan, or the May 2013 Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order (H.R. 4435, 2014, p.64).

In March 2015, House Republicans attempted to decrease funding to CIA and DOD climate change programs—through a budget resolution. The fiscal blueprint requested for funding to be cut from the Clean Technology Fund and Strategic Climate Fund:

This budget resolution reduces spending for government-wide climate-change-related activities, primarily by reducing the funding federal agencies spend on overseas climate-

change activities. It also recommends better coordination of programs and funds to eliminate duplicative and unnecessary spending (United States House Budget Committee, 2015, p.34-35).

In June 2016, House Republicans blocked a strategic bill that assigned top officials the role of planning for climate change. In a 216-205 vote, the House passed an amendment prohibiting the DOD from funding this new plan. Not a single Democrat voted for the amendment. Andrew Holland, senior fellow for Energy and Climate at the American Security Project commented: “It’s actually crazy to me, and it should be crazy to anyone in the military, that Congress is telling them not to do this” (Vinik, 2016).

Republicans such as Representative Ken Buck, who sponsored the amendment, defended his actions by arguing that the military’s focus on climate change distracts from the number one threat; terrorism and the Islamic State. Representative Ken Buck stated:

The military, the intelligence community [and] the domestic national security agencies should be focused on ISIS and not on climate change...The fact that the president wants to push a radical green energy agenda should not diminish our ability to counter terrorism (Vinik, 2016).

Rep. Buck also rejected military efforts towards climate change, stating that climate change “is a fraction of a degree every year. How that is a current threat to us is beyond me” (Vinik, 2016).

As detailed in this section, the politicization of climate change has spilled over into the Legislative branch, and has manifested in Congressional politicians. Actions by Congressional Republicans to blocked climate change funding exemplifies Congressional Republican’s power in controlling the defense sector through funding. However, in response to attempts by Congressional Republicans to cut and/or block funding to the DOD, the defense sector has reacted by avoiding climate change language when requesting money for climate-related activities.

Funding Initiatives

As detailed in the previous section, one of the most visible manifestations of subjective control by political leaders on the military has taken place on Capitol Hill. In response to efforts by the Legislative branch that attempt to control DOD activities, the DOD has responded by modifying their use of climate change language to the extent that Congressional politicians are unable to deem DOD efforts as climate change orientated. In a personal communication with Rear Admiral David Titley, Admiral Titley discussed how he specifically avoided using the politically divisive language of climate change in order to receive funding to establish The Earth System Prediction Capability (ESPC).

Created in 2010, The National ESPC is an inter-agency program that focuses on identifying and developing sources of extended range predictability from synoptic to intraseasonal/interannual timescales. Since 2013, ESPC has received \$10 million a year in funding, and focuses on improving atmosphere, ocean and ice predictions. The National ESPC will improve environmental predictions and help decision makers address critical policy and planning issues. Under this program, the National predictive capability will be able to predict seasonal, annual and decadal time periods through improved global environmental prediction (National ESPC, n.d).

Titley stated that climate change language was specifically avoided in creating this program. Instead, Titley and his peers would use non-politically charged language such as “long range weather forecasting,” to describe their program. Titley detailed that the discussion of climate change needs to be in an apolitical environment. Given that there are “no people and no money,” and [climate change] is such a politicized issue; the DOD does not want to bring [climate change] up (D. Titley, personal communication, April 7, 2016).

I would argue that climate change is out there but [DOD] not going to focus on it... While there being this disconnect in pentagon between bureaucracy turned out versus what they are actually doing. What they are actually doing that is very little. For example, status of ice breakers, it took the Obama administration last year to take 150 million out of 1 billion needed to start next generation ice breaker, but they knew in 2009 that ice breakers are a big deal. What do they do? They talked about it, lots of talk and documents and policies, but not a ton of action. Where they did have action was on regulatory side, varying degrees of difficulty... One thing to say you have a big budget, [climate change] may jeopardize programs, there is no upside to generals or admirals to make a big deal about it [climate change.] The fact that this is politicized to degree in congress is very unhelpful (D. Titley, personal communication, April 7, 2016).

In a personal communication with Lieutenant Commander Oliver-Leighton Barrett, (O. Barrett, personal communication, February 11, 2017) it “would not be smart of military chiefs to go to Congress and say I need money for climate.” Barrett noted the problem with climate change language stating:

I think that any proposal or request for money for climate change using that language is too politically charged. There is no space at the political level to change minds...and I think these guys know it.... The general going after this money, say we have energy shortage problems or imperative problems, and they report side facilities are degraded by sea level rise without using climate change are more likely to prevail if they frame it that way (O. Barrett, personal communication, February 11, 2017).

Barrett emphasized that using this alternative message was more effective. It is not disingenuous, but rather understanding the political environment. “Climate change is so politicized to damage Republicans and to damage Democrats...People have become so radical, there is no room for conversation, and we have to be more open for it” (O. Barrett, personal communication, February 11, 2017).

According to Rebecca Pincus, “finding ways of thinking about climate exchange are more apolitical with fiscal issues is a tactic that focuses on greater effectiveness than branding climate as specifically climate change, which could draw contestation” (R. Pincus, personal communication, April 4, 2017). In a correspondence with a source that develops policy for the

DOD, the source stated that the series of amendments in the last Legislative session—which attempted to control the DOD by prohibiting funding towards climate change planning—was not going to stop the defense sector from pursuing their climate adaptation projects.

Congressional politicians cannot stop the Department from spending money on projects; the projects we are doing that involve climate adaptation and resilience planning are not directly identified. The Department is following their own instructions and purpose, which has climate change embedded within certain projects and operations (Anonymous, personal communication, February 9, 2017).

The source remained confident that the DOD was not subject to congressional restraints; as the DOD operates under their own directive. The source stated unless General Mattis rescinds DOD Directives, the Department will pursue their mission, which involves climate change planning, regardless of political threats to cut funding (Anonymous, personal communication, February 9, 2017).

Energy

The DOD's relationship with the Legislative Branch can be further illustrated in regards to energy sources in the defense sector. In recent years, the DOD has continued to pursue renewable energy. The military's reasons for pursuing energy efficiency are multi-fold; though always in line with the DOD's mission to protect national security, rather than, from desire to protect the environment (Light, 2014, p.885).

In 2016, the Institute for Policy Studies released a report that provides the most accurate climate change security budget currently available, and how these expenditures compare within the overall US security budget. The assessment covered FY 2015-2017 (Pemberton, Powell, & Doctor, 2016). Though the military has classified climate change as an urgent threat, the disparity between spending on traditional military security and on climate security is sizeable.

The report calculated from 30:1 in FY 2015 and FY 2016, to 28:1 in the request for FY 2017. Given the best available estimates, in FY 2016 the US spent more than two and a half times what China spent on its military forces. Yet of that money, China spent nearly one and a half times what the US spent on climate change (p.7). In 2016, the US was estimated to spend 30 times more on traditional instruments of military security than on climate security, while China spend 8 times as much on its military forces as on climate change (p.8).

However, given DOD's approach towards climate change, it may be nearly impossible to truly account for how much the DOD spends on climate change. The DOD has embedded climate change within their strategic and operational planning. As previously stated, the Department is focused neither on the phenomenon of climate change, nor resolving the issue. Rather, the DOD is focused on the implications of climate change that change the military's strategic environment.

This sentiment has been clearly stated by the DOD on numerous occasions. For instance, in a briefing on July 12, 2016 on Capitol Hill, a panel of officials accountable for energy transition from all four service branches and two Assistant Secretaries of Defense; sharing similar notions of what the objective of the task of energy was, and was not. Deputy Assistant Secretary for Environment, Safety and Infrastructure, U.S. Air Force, Mark Correll, began his testimony stating:

I'm going to start off today by not talking about energy, because at the end of the day I am not in the energy business--I am in the defense business. And specifically, your Air Force is here to dominate the air, space, and cyberspace...From an energy standpoint, what we say is, energy powers the fight. "It allows us to fight farther, it allows us to stay on station longer, it allows us to transport more cargo, it allows us to operate our space assets, our cyber assets, all the things that we need to do and accomplish our mission completely, effectively, and efficiently (p.15).

This notion, that the military's intentions in fossil fuel reduction is solely about military objectives (p.15), was reiterated by the speakers from each of the other branches. The speakers concurred that the military is engaging in energy transition because the benefits of reducing fossil fuel will save money that can be allocated to the budget for investments in the tools of military force. Director of the Army's Office of Energy Initiatives, Michael McGhee, stated:

Renewables can bring typically no fuel supply concerns; for solar and wind, for example, there are no resupply issues; there is distributed generation in renewable energy projects that brings a reduced reliance on one source of power; getting renewable projects on or very near military land means there is a reduced supply chain (as cited in Pemberton, 2016, p.15-16).

Also testifying was Senator Jack Reed, Co-Chair of the Senate Renewable Energy and Energy Efficiency Caucus. Sen. Reed provided an even more straightforward message: "This is not to be 'green' but to be an effective fighting force" (p.16).

A legislative director in the Energy, Installations and Environment office also affirmed that climate change is "not why spending decisions are made." It is a "cost driver to save money for the Department" (Pemberton et al., 2016, p.15). This notion runs parallel to Retired Adm. Richard Truly, a former NASA chief, who has reiterated that the purpose of military greening was always military readiness. "I don't remember a single conversation where we talked about spending any money on environmental reasons," he stated (p.16).

In March 2016, at the Installation, Environment and BRAC Budget Overview Hearing, Assistant Secretary of Defense for Energy, Installations, and Environment, Pete Potochney stated: "Unlike the Department's Military Construction and Environmental Remediation programs, where the budget request includes specific line items, our energy programs are subsumed into other accounts" (p.17). Potochney further reiterated the DOD's view of energy use stating: "While there is no explicit budget request for Operational Energy, these investments

across multiple accounts and appropriations are intended specifically to improve military capability” (p.18).

In response to Congressional attempts to block climate change funding by Congressional Republicans, Deputy Assistant Secretary for Operational Energy, Amanda Simpson, stated this form of congressional interference hindered the military’s mission:

I think that when we get language from the Congress telling us what we can or cannot do, that is an imposition on the Department that is not helpful. We look at what we must do, and what we need to do, and when we’re told we can’t do something that is critical to maintaining the readiness of our forces to plan for the future, for instance, the impacts of climate change—the current NDAA from the House says we cannot imagine or look at what those impacts can be in the future. And I think you heard several examples from Senator Reed and from others—those have impacts on the geopolitical scene on our facilities, on how we are planning our equipment, what type of environmentalists they have to operate in... If we can’t do that, we’re basically taking risks in areas that we should not be...exposing our forces to. It’s things like that that, quite frankly, are politically driven, that are not keeping the warfare of our military and our nation in mind, and that really hurts us quite a bit (as cited in Pemberton, 2016, p.18-19).

Thus, the DOD manages its engagement with climate change in a way that maximizes its freedom of action and funding. In regards to the defense sector’s relationship with the Legislative Branch, the DOD has attempted to avoid congressional controversy by disguising and deemphasizing their expenditures on climate-related activities. DOD officials have been found to discuss military actions towards climate change without using climate change language in order to maximize their latitude. Such evidence shows the DOD’s response to the politicization of climate change within the Legislative Branch has been with an apolitical objective in any climate-related efforts, and at times, avoiding climate change language.

The Phenomenon of Climate Change

According to Cheryl Rosenblum, Executive Director of the CNA Military Advisory Board, climate change is an onset problem and is not going to be immediately dealt with. Given that the DOD deals with critical operations, the mission focused on readiness. Thus, immediate threats will always take precedence over an issue like climate change. Rosenblum noted the two main problems with military action towards climate change are competition for funds and levels of issues.

Part of the issue is when it comes down to it, if you have 17 things to do, and limited amount of funding, you are going to spend your money on the first thing that needs to happen today. The higher probability items are going to be funded first. Climate change will be pushed aside in competing levels of issues...Climate change is never going to be reviewed as immediate military issue, military mission is to fight wars not climate change.” Rosenblum reinforced the pragmatic ideology of the DOD and that climate change resiliency is embedded within the DOD’s operations and strategic planning rather than being an autonomous focus. “You are not going to fight climate change but the impacts of climate change (C. Rosenblum, personal communication, February 14, 2017).

Rosenblum also noted that there is not going to be funding specifically for climate change, but that does not mean that the Department is not building into it. “For DOD, every decision they make is about increasing capability, their ability to train, and ability to fight to secure their assets. So to say what their plan regarding climate it is to make sure it does not impact their ability to train and fight.” The DOD frames climate change in how to diminish climate change impacts on the Department (C. Rosenblum, personal communication, February 14, 2017).

However, climate change extends beyond traditional environmental concerns with pollution, preservation, population, and parks. Climate change is multi-fold and has the potential to cause major social, political, economic disruptions (Dalby, 2016, p.83). By only treating the symptoms of climate change, the DOD has been able to avoid much of the political sensitivity

that surrounds this issue. However, by not addressing the root of the problem, the Department will not be able to fully prepare for the future manifestations of climate change. By avoiding the political sensitivity that surrounds this issue, the DOD also avoids the potential remedies that can only transpire once the Department addresses the root of the problem; which is the causation of climate change, and the extent to which climate change warrants attention. As the military prepares for the future projections of climate change, they will need to address the phenomenon of climate change, rather than the manifestations of climate change that warrant immediate attention.

Future Uncertainties: The Middle East

Understanding the long-term attention that climate change warrants can be seen in the DOD's engagement in the Middle East in regards to climate change. Although climate change has not been proven to work as a direct catalyst for civil conflict, it still acts as a threat multiplier and exacerbates existing problems in fragile states. In most developing countries, the ability to deal with climate change is low as factors such as poverty, low levels of education, lack of technology and information, poor access to resources, overexploitation of resources and weak institutions are high. Climate change is projected to exacerbate many of these problems (Swain, 2015, p.3).

In recent decades, eruption of multiple wars in some of the most sweltering and driest regions in the world have provoked that symptoms of climate change will be a focal driver of conflict throughout the 21st century. Research has suggested environmental stress to be a main catalyst that creates societal insecurity that may result in armed conflict. Scarcity of renewable resources and resources scarcity-induced population migration both have the potential to become

a source of violent conflicts as well. In recent years, the relationship between climate change and armed conflict has received more attention. The loss of living space, source of livelihood, and resources that attributable to climate change could also force affected people to migrate. Arguably, the mass movement of populations due to climate change may generate security concerns for a nation-state (p.1).

According to Lieutenant Commander Barrett, climate change is a national security issue because of its implications on numerous states within the sphere of radical Islam, and in areas that are least resilient to shock. Climate change exacerbates tensions and problems that are already present. Barrett stressed the need for armed forces study the potential future implications of climate change on failing and failed states. “There are two ways to look at it. Military needs to be prepared to fight wars in the future—implying we will see more instability, and the military will also be looking at future humanitarian disasters” (O. Barrett, personal communication, February 11, 2017).

A recent report by Country Indicators for Foreign Policy found that a global fragility ranking of a combined 198 countries using 2014 data. At the top of the list of most fragile countries according to CIFP’s ranking: South Sudan is number one, followed by Somalia, Central African Republic, Yemen, Sudan. Afghanistan, Democratic Republic of Congo, Chad, Iraq and Syria as number 10 (Carment, Langlois, & Samy, 2016, p.2).

Climate variation is a threat-multiplier, worsening existing conditions and conflicts especially in subregions of strategic economic and political importance to the West. This emerging long term stressor must become understood as a consequential force in the maintenance of global stability and security (Barrett, 2014).

Food water and scarcity will add climate variability as an undervalued force that continues to erode the capacities of fragile states such as Somalia, Mali, Libya, Egypt and Syria.

Though scientists have yet to find a direct link between climate change and causation of conflict, climate change still plays a significant role to national security. If climate symptoms continue to take root in forms of increased temperatures, droughts, resource scarcity, etc. these effects have the potential to exacerbate already unstable countries—aggravating tensions and problems. Though the DOD recognizes that climate change acts as a threat multiplier, their inability to treat the pre-conditions of climate change will only mildly treat the symptoms of climate change as they worsen.

Since climate change is not a single driver of conflict, but rather a threat multiplier and accelerant, the defense sector frames their approach to climate change as treating the symptoms, rather than the disease itself. Given the DOD's mission, the Department is focused on diminishing the impacts of climate change, rather than the phenomenon of climate change itself.

However, in order for the DOD to properly study these fragile areas susceptible to future climate change implications, there is a need to recognize that the effects of climate change are impacting these areas in certain ways. The politicization of climate change is part of the broader fragmented political discourse, and though the DOD has shielded itself from political controversy surrounding this issue, future operations and strategic planning—such as examining the implications of climate change in the Middle East—will necessitate more direct action and efforts focused on climate-related aspects.

The DOD will need space to study such threats that danger the landscapes of these vulnerable regions. But if climate change language completely vanishes due to the politicization of climate change, the DOD will be limited in the ways in which they can prepare for climate change. As noted in previous sections, there have been certain organizational and institutional incentives and benefits from not directly linking climate change issues to military actions.

The projected security concerns of climate change acting as threat multipliers on fragile states warrants attention by the Department to closely watch these troubled regions in upcoming years. Yet, if the DOD continues to avoid the political sensitivity that surrounds climate change, they will also be limited to remedies that only address the symptoms of climate change. However, given the phenomenon of climate change, as future symptoms of climate change manifest in the changing global environment, the DOD will be need to address the foundational roots of the issue in order to find remedies to this long-term, acute problem.

James Mattis

Although this research leaves many questions unresolved, some preliminary conclusions can be drawn. Given the unprecedented political climate and new political administration, this research suggests that the United States Secretary of Defense, General James Mattis, is a focal actor to watch in the forthcoming years. As Secretary of Defense, Mattis will be a determining factor in how the DOD moves forward in its engagement with climate change.

According to Rebecca Pincus (R. Pincus, personal communication, April 4, 2017), it is difficult to know specifically how the politicization of climate change affects the DOD's behavior. The DOD is apolitical and its administration is political. The DOD follows its own Defense Directive and high-level security Guidance such as National Security Strategies and Quadrennial Defense Reviews. These high-level security documents guide DOD behaviors. The next DOD Directive on climate change adaptation and resilience will provide evidence on how General Mattis and others DOD officials are going to act towards climate change in the Trump Administration.

Since the DOD works under their own Directives, Mattis' influence in high-level guidance documents will be fundamental to the defense sector's strategic planning and operations. High-level guidance will establish the DOD's engagement with climate change going forward. The latest DOD Directive 4715.21 (2016a) *Climate Change Adaptation and Resilience* became effective on January 14, 2016, and was approved by Deputy Secretary of Defense, Robert Work. This Directive reinforces that the DOD would continue to assess and manage risks associated with climate change into their strategic and operational planning. Whether or not Mattis chooses to follow this Directive or create new guidance will be a determining factor to DOD climate change policy.

Mattis embodies the apolitical, pragmatic approach towards climate change that has been maintained by the defense sector. As previously detailed, Mattis played a key role in initiating the Armed Forces' transition from fossil fuel reliance to alternative energy sources during the Iraq and Afghanistan conflicts. Mattis' approach to the problem of fuel convoys was apolitical; arguing that the vulnerabilities of fuel convoys and casualties from fossil fuel dependency warranted advanced efforts towards transitioning to alternative energy sources. Mattis has also concurred with other military planners in recognizing the potential of climate change effects to constitute major security threats in upcoming decades (Wolff, 2016).

In 2010, as Commander of the US Joint Forces Command, Mattis signed the Joint Operating Environment, which classifies climate change as one of the security threats the military expects to tackle throughout the next 25 years. In his forward, Mattis wrote: "From economic trends to climate change and vulnerability to cyber attack, we outline those trends that remind us we must stay alert to what is changing in the world if we intend to create a military as relevant and capable as we possess today" (Wolff, 2016). Mattis' ideology correlates with the

military's apolitical, pragmatic framing of climate change. The military is not focused on addressing climate change itself, but rather on improving its readiness.

In an unpublished written testimony provided to the Senate Armed Services Committee following his confirmation hearing in January 2017, Mattis noted that it was incumbent on the military to contemplate the challenges that climate change poses to security. "Climate change is impacting stability in areas of the world where our troops are operating today. It is appropriate for the Combatant Commands to incorporate drivers of instability that impact the security environment in their areas into their planning" (Revkin, 2017). Mattis' written statements to the Senate committee was the first sign of his recognition of climate change as a member under the Trump administration.

Such statements and future actions by Mattis will indicate his abilities to engage with climate change in this unprecedented political climate. As the Secretary of the Department of Defense, Mattis' engagement with climate change will structure how the rest of the DOD will behave towards climate change. Given the unprecedented political era, the future of DOD climate change engagement, and the flexibility of the Department to integrate and address climate change will be manifested in the defense sector's openness of using climate change language and framing of climate-related issues. In doing so, Mattis will play a fundamental role in structuring the future of DOD climate change policy and actions.

References

- Andrews, A. M., Bryzik, W., Carlin, R., Feigley, J. M., Harrison III, W. E., Katz, D. J., ... & Wolbarsht, J. Naval Research Advisory Committee. (2006). *Future fuels* (No. NRAC-06-1). Arlington, Virginia: Author. Retrieved from https://www.nrac.navy.mil/docs/2005_rpt_future_fuels.pdf
- Bain, P. G., Hornsey, M. J., Bongiorno, R., & Jeffries, C. (2012, June 17). Promoting pro-environmental action in climate change deniers. *Nature Climate Change*, 2(8), 600-603.
- Baldassarri, D., & Gelman, A. (2008, January 28). Partisans without constraint: Political polarization and trends in American public opinion. *American Journal of Sociology*, 114(2), 408-446.
- Barrett, O. (2014, February 18). *Climate change: Fragile states spillage*. Retrieved from <http://foreignpolicyblogs.com/2014/02/18/climate-change-fragile-states-spillage/>
- Busby, J. W. (2016). Climate change and US national security: sustaining security amidst unsustainability. In J. Suri & B. Valentino (Eds.), *Sustainable security: Rethinking American national security strategy*, (pp.1-45). Oxford University Press.
- Carment, D., Langlois, S., & Samy, B. Y. (2016). *Assessing state fragility, with a focus on climate change and refugees: A 2016 country indicators for foreign policy report*. Carleton University, Ottawa: Country Indicators for Foreign Policy. Retrieved from <http://www4.carleton.ca/cifp/app/serve.php/1530.pdf>
- Carmichael, J. T., Brulle, R. J., & Huxster, J. K. (2017). The great divide: understanding the role of media and other drivers of the partisan divide in public concern over climate change in the USA, 2001–2014. *Climatic Change*, 141(4), 599-612.

- Conca, K., & Dabelko, G. (2014). *Green planet blues: Critical perspectives on global environmental politics*. Boulder, Colorado: Westview Press.
- Cook, J., Oreskes, N., Doran, P. T., Anderegg, W. R., Verheggen, B., Maibach, E. W., ... & Nuccitelli, D. (2016). Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, *11*(4), 1-7.
- Dalby, S. (2016). Climate change and the insecurity frame. In S. O'Lear & S. Dalby (Eds.), *Reframing climate change: Constructing ecological geopolitics* (pp. 83-99). New York, NY: Routledge.
- Dunlap, R. E., McCright, A. M., & Yarosh, J. H. (2016). The political divide on climate change: Partisan polarization widens in the U.S. *Environment: Science and Policy for Sustainable Development*, *58*(5), 4-23.
- Dunlap, R. E., & McCright, A. M. (2015). Challenging climate change: The denial countermovement. In R. Dunlap & R. Brulle (Eds.), *Climate change and society: Sociological perspectives* (pp. 300-329). Oxford University Press.
- Dunlap, R. E., & McCright, A. M. (2011). Organized climate change denial. In J. Dryzek, R. Norgaard, & D. Schlosberg (Eds.), *The Oxford handbook of climate change and society* (pp. 144-160). Oxford University Press.
- Dunlap, R. E., & McCright, A. M. (2010). Climate change denial: sources, actors and strategies. In C. Lever-Tracy (Ed.), *Routledge handbook of climate change and society*, (pp. 240-259). Routledge.
- Eady, D. S., Steven, B., Siegel, S. B., Bell, R. S., & Dicke, S. H. Army Environmental Policy Institute. (2009). *Sustain the mission project: Casualty factors for fuel and water*

- resupply convoys* (No. NDCEE-0545). Arlington, Virginia: Author. Retrieved from http://www.aepi.army.mil/docs/whatsnew/SMP_Casualty_Cost_Factors_Final1-09.pdf
- Erickson, E. (2016). Climate change and the department of defense: An introduction. In *2016 special Issue: MCU journal climate change and policy* (pp. 7-24). Marine Corps University Press.
- Exec. Order No. 13653, 3 C.F.R. 330. (2013). Retrieved from <https://obamawhitehouse.archives.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>
- Exec. Order No. 13514, 3 C.F.R. 52117. (2009). Retrieved from <http://www.denix.osd.mil/sustainability/revoked-eos/eo-13514/guidance/eo-13514-federal-leadership-in-environmental-energy-and-economic-performance/>
- Fiorina, M. P., & Abrams, S. J. (2008). Political polarization in the American public. *Annual Review of Political Science*, *11*, 563-588.
- Fitzpatrick, R., Freed, J., & Eoyang, M. (2011). Fighting for innovation: How dod can advance clean energy technology... And why it has to. *Clean Energy Program*. Retrieved from <http://www.bioin.or.kr/InnoDS/data/upload/policy/1324951077296.pdf>
- Hackman, R. (2015). Obama ties climate change to ‘likelihood of global conflict’ in Twitter Q&A. *The Guardian*. Retrieved from <https://www.theguardian.com/us-news/2015/may/28/president-obama-twitter-climate-change>
- Hudak, K. (2013, March 6). Lengthening the tether of fuel in Afghanistan. *U.S. Army*. Retrieved from https://www.army.mil/article/97879/Lengthening_the_Tether_of_Fuel_in_Afghanistan

- Hulme, M. (2007, October 19). *Climate change: from issue to magnifier*. Retrieved from https://www.opendemocracy.net/article/climate_change_from_issue_to_magnifierhttps://www.opendemocracy.net/article/climate_security_the_new_determinism
- Huntington, S. P. (1957). *The soldier and the state: The theory and politics of civil-military relations*. Belknap Press of Harvard University Press.
- Light S. E. (2014). The military-environmental complex. *Boston College Law Review*, 55(3), 879-946.
- Mastroianni, B. (2015, December 3). How climate change became so politicized. *CBS News*. Retrieved from <http://www.cbsnews.com/news/how-climate-change-became-so-politicized/>
- Mayer, J. (2013, June 30). Koch pledge tied to congressional climate inaction. *The New Yorker*. Retrieved from <http://www.newyorker.com/news/news-desk/koch-pledge-tied-to-congressional-climate-inaction>
- McCright, A. M., & Dunlap, R. E. (2011). The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. *The Sociological Quarterly*, 52(2), 155-194.
- McCright, A. M., & Dunlap, R. E. (2010). Anti-reflexivity. *Theory, Culture & Society*, 27(2-3), 100-133.
- National Defense Authorization Act for Fiscal Year 2017, S. 2943, 114th Cong. (2016) (enacted). Retrieved from <https://www.govtrack.us/congress/bills/114/s2943>
- National Defense Authorization Act for Fiscal Year 2015, H.R. 4435, 113th Cong. (2014). Retrieved from <https://www.congress.gov/bill/113th-congress/house-bill/4435>

- National Defense Authorization Act for Fiscal Year 2010, H.R. 2647, 111th Cong. (2009) (enacted). Retrieved from <https://www.govtrack.us/congress/bills/111/hr2647>
- National Defense Authorization Act for Fiscal Year 2008, H.R. 4986, 110th Cong. (2008) (enacted). Retrieved from <https://www.govtrack.us/congress/bills/110/hr4986>
- National Earth System Prediction Capability. (n.d). *About us*. Retrieved from <http://espc.oar.noaa.gov/>
- Nerlich, B., Koteyko, N., & Brown, B. (2010). Theory and language of climate change communication. *Wiley Interdisciplinary Reviews: Climate Change*, 1(1), 97-110.
- Nix, D. E. (2012). American civil-military relations. *Naval War College Review*, 65(2). 88-104.
- Pemberton, M., Powell, E., & Doctor, N. (2016). *Climate vs climate: The military and climate security budgets gets compared*. Washington, DC: Institute for Policy Studies. Retrieved from <http://www.ips-dc.org/wp-content/uploads/2016/09/CvsC-Report-1.pdf>
- Percival, R. V. (2014). Presidential power to address climate change in an era of legislative gridlock. *Virginia Environmental Law Journal*, 32, 134-156.
- Revkin, A. (2017, March 14). *Trump's defense secretary cites climate change as national security challenge*. Retrieved from <https://www.propublica.org/article/trumps-defense-secretary-cites-climate-change-national-security-challenge>
- Scott, S. V., & Khan, S. (2016). The implications of climate change for the military and for conflict prevention, including through peace missions. *African & Francophonie Air & Space Power Journal*, 8(1), 82-94.
- Simeone, N. (2014, October 31). *DoD releases strategic sustainability plan* [Press release]. Retrieved from <https://www.defense.gov/News/Article/Article/603567/dod-releases-strategic-sustainability-plan/>

- Srikanth, D. (2014). Non-traditional security threats in the 21st century: A review. *International Journal of Development and Conflict*, 4(1), 60-68.
- Swain, A. (2015). Climate change: Threat to national security. *Encyclopedia of Public Administration and Public Policy*. 1-4.
- Townsend, M., & Harris, P. (2004). Now the pentagon tells Bush: Climate change will destroy us. *The Observer*, 22(2), 04.
- Union of Concerned Scientists. (2016). *The US military on the front lines of rising seas* [Fact Sheet]. Retrieved from <http://www.ucsusa.org/sites/default/files/attach/2016/07/front-lines-of-rising-seas-naval-station-norfolk.pdf>
- United States. Department of Defense. (2017). *About the Department of Defense (DOD)*. Retrieved from <https://www.defense.gov/About>
- United States. Department of Defense. (2016a). *Climate change adaptation and resilience*. (DOD Directive 4715.21). Washington, DC: Author. Retrieved from <https://www.defense.gov/Portals/1/Documents/pubs/471521p.pdf>
- United States. Department of Defense. (2016b). *Strategic sustainability performance plan FY 2016*. Washington, DC: Office of the Under Secretary of Defense for Acquisition, Technology and Logistics. Retrieved from <http://www.denix.osd.mil/sustainability/dod-sspp/unassigned/departement-of-defense-strategic-sustainability-performance-plan-fy-2016/>
- United States. Department of Defense. (2015a). *Agency strategic plan: Fiscal years 2015-2018* (2-3A0EF6F). Washington, DC: Author. Retrieved from http://dcmo.defense.gov/Portals/47/Documents/Publications/ASP/FY2016_2018ASP.pdf

- United States. Department of Defense. (2015b). *National security implications of climate-related risks and a changing climate* (8-6475571). Washington, DC: Author. Retrieved from <http://archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery>
- United States. Department of Defense. (2014a). *2014 Climate change adaptation roadmap*. Alexandria, VA: Office of the Deputy Under Secretary of Defense. Retrieved from <http://ppec.asme.org/wp-content/uploads/2014/10/CCARprint.pdf>
- United States. Department of Defense. (2014b). *Quadrennial defense review 2014*. Washington, DC: Author. Retrieved from http://archive.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf
- United States. Department of Defense. (2010). *Quadrennial defense review report: February 2010*. Washington, DC: Author. Retrieved from https://www.defense.gov/Portals/1/features/defenseReviews/QDR/QDR_as_of_29JAN10_1600.pdf
- United States. House Budget Committee. (2014). *The path to prosperity: Fiscal year 2015 budget resolution*. Washington, DC: Author Retrieved from https://budget.house.gov/uploadedfiles/fy15_blueprint.pdf
- United States. White House. (2010, May 27). *National security strategy 2010*. Washington, DC: Barack Obama. Retrieved from <http://nssarchive.us/national-security-strategy-2010/>
- Vinik, D. (2016, June 23). Why the GOP is trying to stop the Pentagon's climate plan. *Politico*. Retrieved from <http://www.politico.com/agenda/story/2016/06/republicans-trying-to-stop-pentagon-climate-plan-000149>
- Von Lucke, F., Wellmann, Z., & Diez, T. (2014). What's at stake in securitising climate change? Towards a differentiated approach. *Geopolitics*, 19(4), 857-884.

Wolff, E. (2016, December 19). Mattis: Trump cabinet's lone green hope?. *Politico*. Retrieved from <http://www.politico.com/story/2016/12/james-mattis-climate-change-trump-defense-232833>