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NATIONAL CLIMATE-RELATED SECURITY POLICIES OF THE PERMANENT MEMBER STATES OF THE UNITED NATIONS SECURITY COUNCIL

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Summary

Over the past decade, climate change has become increasingly embedded within global security discourse, but whether it should be formally considered as a matter for the international peace and security agenda remains contested. Moreover, while the adverse effects of climate change on natural, societal and governance systems clearly amounts to a threat that is transnational in scope, the international response remains dependent on positions taken at a national level. The United Nations Security Council represents a key forum and lens into this debate, within which national governments' positions on climate security continue to diverge. As background context to this debate, this paper traces the national climate-related security policies of five key UN Security Council states: China, Russia, the United States, the United Kingdom and France—the permanent members (or the P5) holding veto power. Specifically, it examines how more traditional security actors within each country have assessed the risk of climate change on national security, and the extent to which they have organizationally begun to incorporate any identified climate risks into their plans and operations. Given their geopolitical weight, China, Russia, and the USA are given more extensive attention in this study.

As expected, these five case studies show a diverse picture of securitization, with the military and foreign policy sectors of Russia and China taking on few if any active adaptation efforts in relation to climate change. Though there has been official recognition by both governments that climate change may pose a threat to elements of national security, this recognition has not yet resulted in any structural changes in military or security strategy, planning or processes. China continues to publicly maintain that climate change risks should be addressed from the angle of sustainable development, while Russia's security response—outside of Arctic issues—has been dampened by the government's ambivalence in addressing anthropomorphic climate change more broadly. In both countries, security thinking related to the climate remains nascent, and policy responses within the security sector are underdeveloped. On the international stage, both have held that the UN Security Council is not an appropriate forum for consideration of the topic. Political developments in China, however, are worth monitoring: more comprehensive and robust security discourse from its leaders, an increasing overseas footprint, and a more proactive China on a range of global governance issues could lead to change in its position over time.

The USA, on the other hand, has been a forerunner in climate securitization, with the clear recognition of climate risks from its defence and security structures followed up with institutional responses. Recent political turnover has resulted in significant policy reversals in this regard, but developments show that the securitization is durable if not irreversible. But on the diplomatic front, over the course of 2017, the national government has shed any position of leadership on climate issues; the US stance in relation to multilateral frameworks such as the UN Security Council is also in question. Finally, the UK and France have consistently recognized climate change as a matter relevant for the international security agenda. The UK has acted as a strong advocate for climate security on the international stage, and its national security policies largely correspond to this view. However, its political priorities have shifted in recent years and the issue has become less prominent within its foreign policy. France's discourse has largely been in line with that of the UK, though more concrete institutionalization of climate security into its military and foreign policy structures has been less evident.

The importance of the UN Security Council as an emergent forum for the global climate security debate has informed the case selection of this study, but the focus here is not on the UN Security Council itself. The UN Security Council is the site of

broader debates about international security governance, and comes with its own analytical, geopolitical, and institutional challenges related to mandate, legitimacy, and effectiveness—all relevant when states consider whether or not it is an appropriate forum for action. Nevertheless, national-level policies remain important in order to understand the broader picture of global-level response.

China

- Over the past two decades, China has taken a rather wide definition of security that allows room for environmental or ecological concerns, but it has not resulted in noticeable security-specific responses by the state in regards to such challenges.
- President Xi Jinping's 'holistic security concept', which formally incorporates 'environmental security' and 'resource security', as well as new policy rhetoric about China as an 'ecological civilization', could in theory be utilized for a more robust securitization of climate change. However, this remains to be seen.
- 'Climate security' is a term that has gained traction within certain segments of the Chinese state apparatus, but it has not been widely used, and has not been taken up by the defence or foreign policy sector.
- China continues to hold that climate change is primarily a problem of sustainable development rather than a peace and security challenge per se. China has been reluctant to open the agenda of the UN Security Council to consider climate change impacts, but it seems to have softened its position in recent years, recently admitting in UN Security Council debates that issues such as water have a 'bearing on peace and security'.
- China is expanding its overseas interests, and it is likely that its international security footprint will increase. This may lead to it taking more proactive and preventative positions within traditional security institutions.

Russia

- Since the breakup of the Soviet Union, climate change has been a low priority for the Russian government in part due to perceptions of low vulnerability as well as heavy state dependence on the fossil fuel sector. Consequently, Russia has put little effort into climate mitigation, and its adaptation efforts are nascent.
- While the adverse impacts of climate change are referenced in the state's sectorial strategies for water, energy and food, and climate change is recognized as a threat to the country's 'ecological security', the topic has not been considered an issue of relevance for the military or for national security beyond the changing conditions in the Arctic.
- Russia has firmly held that the UN Security Council is not an appropriate forum for the consideration of climate change impacts. Russia's hard-line position has remained consistent in spite of China's recent shifts in related UN Security Council debates.
- The Arctic is a zone of special interest for Russia, where it recognizes that climate impacts will have national security implications. Russia is preparing, including militarily, for these changing conditions, but climate change it is also seen as providing new opportunities for the advancement of state economic and strategic interests in the region.

The United States

- The USA has been the global frontrunner in national climate security, but presently remains heavily deadlocked politically. The Obama administration made significant efforts to mainstream climate security across the federal government departments, but many of these policies have been dismantled by President Trump.
- Within the defence establishment there is well-established consensus regarding the necessity of considering and addressing climate impacts. Prominent defence officials within the Trump administration continue to act as advocates regarding this.
- Two strands of climate risk are prominent in US defence assessments and operational planning: climate change as an exacerbating factor in global instability, and climate change as a threat to military installations and assets.
- The bipartisan divide on climate security has recently narrowed, and a Republican-controlled Congress has passed significant legislation that recognizes climate change as a 'direct threat' to US national security.
- The foreign policy apparatus has taken more of a backseat role compared to defence in the US climate security debate. Given the at best ambivalence of the current administration towards multilateral institutions, a highly proactive stance by the USA within the UN Security Council on this topic is unlikely.

The United Kingdom

- The UK has played a primary role in initiating climate security debates in multilateral forums and institutions, including within the UN Security Council. The Foreign and Commonwealth Office had been specifically mandated and staffed with personnel to help promote this agenda internationally, but political momentum has faded in recent years.
- The Ministry of Defence has recognized climate change as an international and national security threat, and incorporates consideration of it into defence planning, operations and installations.
- Climate change is not as divisive an issue for British political parties as it is in the USA. While the current Conservative government purports to continue pre-existing climate-related policies, its role as an international climate security advocate light of other post-Brexit priorities.

France

- France has taken up similar positions to the UK in terms of the need for international attention and action to address the security impacts of climate change. However, the response within its own security institutions has been somewhat slower.
- The adverse security impacts of climate change feature prominently in France's 2017 defence white paper update, and the prioritization on climate action by President Macron may help to invigorate this agenda. However, new security-specific policy evolution on climate change remains to be seen.

1. Introduction

Background

This report examines the climate-related security policies of each country that occupies a permanent seat and holds veto power on the United Nations Security Council: China, Russia, the United States, the United Kingdom and France. The aim is to contribute to a broader understanding of the P5 countries' climate security policies, in order to help provide background context for on-going conversation about reforming the United Nations system to develop a more proactive stance towards assessing and responding to the adverse effects of climate change. Since the mid-2000s, discussion of the adverse effects of climate change has become increasingly more embedded within global security discourse, and is asserting a greater influence over both global governance and the policy agenda.[1] However, whether it should be formally considered as a matter for the international peace and security agenda remains contested. One key forum where this debate has been taking place is in the United Nations, specifically the UN Security Council. The first UN Security Council debate on the impacts of climate change in 2007 marked the beginning of a series of debates and discussions at UN level on the need for preventive measures to address this threat to global peace and security.[2] These included a 2009 UN General Assembly debate, an additional Security Council debate in 2011, unofficial Security Council meetings through the Arria-formula format in 2013 and 2015, as well as sessions indirectly focusing on climate-related challenges with regard to rises in sea level, desertification and water security in 2015 and 2016.[3] These have continued in 2017.[4]

Several countries are currently pushing the Security Council to develop a proactive stance in relation to the adverse effects of climate change and its impact on international peace and security. However positions among council members remain divergent, and no consensus on this issue has yet been achieved.[5] Thus, even as the negative impacts of climate change on natural, societal and governance systems clearly amount to threats that are transnational in scope, the international security response largely remain politicized or stuck at an impasse at the *national* level. Indeed, despite a new constellation of security actors and the widened security governance framework of the post-cold war era, the very forum of the Security Council is a reminder that the international peace and security architecture remains state-centric in nature. As such, the debates, discourses and practices of national governments regarding the adverse effects of climate change can help to contextualize the governance measures—or lack thereof—taken at the global level. It is within this context that these five case studies were conducted, focusing on the national climate-related security policies of the permanent members of the Security Council, also known as the P5. In addition to being important global actors in their own right, these five states hold veto power within

[1] Dellmuth, L. et al., 'Intergovernmental organisations and climate security: advancing the research agenda', *WIREs Climate Change*, e496 (2017).

[2] United Nations, 'Security council holds first-ever debate on impact of climate change on peace, security, hearing over 50 speakers', 17 Apr. 2007, <http://www.un.org/press/en/2007/sc9000.doc.htm>.

[3] Born, C., 'A resolution for a peaceful climate: opportunities for the UN Security Council', SIPRI Policy Brief (Jan. 2017), p. 5.

[4] Security Council Report, 'Climate change: Arria-formula meeting', 14 Dec. 2017, <http://www.whatsinblue.org/2017/12/climate-change-arria-formula-meeting.php>.

[5] Dellmuth et al. (note 1); Conca, K. et al., 'Climate change and the UN Security Council: bully pulpit or bull in a china shop?', *Global Environmental Politics*, vol. 17, no. 2 (May 2017); and Scott, S., 'Implications of climate change for the UN Security Council: mapping the range of potential policy responses, *International Affairs*, vol. 91, no. 5 (2015), pp. 1317–33.

the Security Council; any forward movement on climate security within the Council framework will no doubt heavily depend on the positions that these states take.

Aim and approach

The central analysis is on each country's national security apparatus, particularly the military and foreign affairs departments, tracing the extent of discourse and any implementation of climate-related security policy that has taken place. While addressing climate-related security (or 'climate security') risks clearly requires far more than traditional military or diplomatic responses, the degree to which military and diplomatic actors have internalized climate change can be a clear marker of how far a state considers climate change as having security implications, in general.[6] However, responsibilities and mandates relevant to promoting national and international climate security and resilience are certainly not restricted to traditional security actors; this report occasionally makes reference to agencies lying outside the security sector, but when these agencies are relevant to understanding the states' security-specific policies related to climate change, or have a vested institutional interest in advancing the broader in-country climate security debate.

The key sources include policy documents such as national security strategies, defence white papers, departmental- or ministerial-level threat analyses. Though less focused, discursive shifts within the foreign policy apparatus are captured by statements by relevant officials at public international or multilateral forums—primarily but not limited to those made in the UN Security Council. Beyond selecting for relevance, in the cases of Russia and China, all source selection has also been influenced by what is publicly accessible. In addition to reviewing official recognition of the security impacts related to climate change, the report also examines whether more durable policies exist through the institutionalization of climate-related policies into security apparatuses. Institutionalization may include the establishment of specialized offices or staffing positions, funding for projects or programmes, new requirements for planning offices—or other measures to embed both mitigation and adaptation efforts into their operations. The time frame for each country varies depending on when climate security policies rose to official attention.

Due to their geopolitical weight, China, Russia and the USA have been given more in-depth treatment than France and UK. Indeed, amid what has become increasingly recognized as a sea change in leadership on a number of global governance issues—including action on climate change—it is particularly important to monitor and understand the trajectories of the major powers. The USA has, over the course of 2017, undergone profound political shifts in relation to climate change, which has some implications for its associated security posture. Russia and China have been among the most reluctant of the P5 actors to address climate change as a security issue at the international level, but at a national level both countries at least rhetorically consider environmental (or ecological) security to be an important component of their national security. This could prove relevant as entry points into a debate on the security implications of climate change in specific, but such policy remains nascent. The report contributes with new information regarding Russia and China, key actors whose climate security policies have not been of much focus in much western analyses, as well as an update on the climate security policies within the ever-shifting policy environment of the USA.

[6] The term 'climate security' refers to 'the condition where people, communities and states have the capacity to manage threats and risks emerging from climate change and variability'. See Dellmuth et al. (note 1).

Climate security policy at the national-level may help to contextualize and even explain some of the dynamics of a given country's position within international-level peace and security institutions such as the UN Security Council, but it must be noted that they may not necessarily be definitive factors for understanding states' positions. While a broader interest in the UN Security Council has informed the case selection of this paper, the UN Security Council itself is not the focus of the analysis. The UN Security Council is the geopolitical site of broader debates about international peace and security governance, political mandates and the scope and nature of international intervention. It comes with its own institutional and analytical challenges, which for the most part lie outside of the scope of this paper.

Finally, this report does not provide any robust analysis of why certain states have identified climate change as a national security issue to a greater or lesser extent than others. Factors such as a stronger or weaker overseas military or political footprint, the level of forbearance for broad-based international security interventions, or different perceptions of national versus international vulnerabilities to climate change would be relevant independent variables to examine. There may be more political and politicized variables that extend beyond the set of issues themselves, and certainly the agendas of political leaders—or demanded by certain publics—also play a role. In other words, a broader set of empirical data is required to explore the question of why some countries but not others develop policies and alter their institutional apparatuses in relation to climate security. Nevertheless, this overview of these countries' defence and military sectors, as well as their foreign affairs departments, provides one piece in the larger puzzle.

The report is structured by country, starting with China, Russia, and the USA, and following by two shorter sections on the UK and France. Each case begins with a short background, continued by the evolution of climate security discourse in each country, and followed by any institutionalization within the security apparatus. The report concludes with a short summary highlighting the key points of each section.

2. China

Overview

The security implications of climate change were first brought to the government's attention by the lead environmental-related agency. In the early 2000s, the first and second directors of the State Environmental Protection Administration—Qu Geping and Xie Zhenhua—both published books regarding the seriousness of climate change and its threat to China's ecological and environmental security.[1] Within the national security apparatus, General Xiong Guangkai, a former deputy chief of staff of the People's Liberation Army (PLA), discussed as early as 2007 the need to expand the dimensions of national security beyond traditional threats, explicitly using the term 'climate security' (气候安全).[2] However, there is little evidence that the term received any further traction within Chinese military institutions.

In general, however, China has consistently framed climate change and its adverse effects as a sustainable development challenge rather than a security issue to be addressed by the armed forces or the national security apparatus. Indeed, in its first National Climate Change Programme (2007), China stated that it would be guided by the principle of addressing 'climate change within the framework of sustainable development'.[3] This was reiterated in the 2008 government white paper 'China's Policies and Actions for Addressing Climate Change', which stated that 'climate change arises out of development, and should thus be solved along with development'.[4] In both national documents and international forums, China has maintained this position, although there has been some rhetorical movement and policy pushes from outside the defence sector to highlight the explicit (national) security implications of climate change. The institutionalization of climate-related thinking into the Chinese security apparatus is nascent.

Government policy documents which are specific to climate change are unified in their recognition that climate change can have substantial adverse impacts on the state, society, economic development and livelihoods, however these are not explicitly linked to national or international security. In 2008 China published its first white paper on climate change, which stated that global climate change poses 'severe challenges to the survival and development of human society' and 'substantial threats to the natural ecological systems as well as the economic and social development of the country'.[5] While wide-ranging impacts to society including 'huge losses to the national economy' and 'augmented threats to the safety of life and property, and to the normal order and stability of social life' were noted, the term 'security' in the sense of national security was never mentioned. China's official climate change-related documents—a Policies and Actions on Climate Change Report released annually between 2012 and 2016—have also recognized that climate change poses a major challenge to the human race in regard to its survival and development, but so far has avoided any direct links

[1] Zhang, H., 'The impact of climate change on Chinese national security: the perspective of comprehensive national security' [气候变化对中国国家安全的影响], *Quarterly Journal of International Politics*, vol. 4 (2015). Xie Zhenhua has also held the post of vice chairman of the country's top economic development body, the National Development and Reform Commission (NDRC), and is currently also the country's special representative for climate change affairs.

[2] '熊光楷在德国发表演讲阐述当前中国安全政策' [Xiong Guangkai delivered a speech in Germany elaborating on China's current security policy], Sina Military, <http://mil.news.sina.com.cn/2007-07-25/0101456297.html>.

[3] National Development and Reform Commission (NDRC) of the People's Republic of China, 'National Climate Change Programme', June 2007, <http://en.ndrc.gov.cn/newsrelease/200706/P020070604561191006823.pdf>.

[4] State Council Information Office of the People's Republic of China, 'China's policies and actions on climate change', Oct. 2008, <http://www.china.org.cn/government/news/2008-10/29/content_16681689_4.htm>.

[5] State Council Information Office of the People's Republic of China, 'China's policies and actions for addressing climate change', Oct. 2008, <http://www.china.org.cn/government/news/2008-10/29/content_16681689_4.htm>.

with security.[6] Nevertheless, there is some emergent movement within the defence as well as broader national security sphere to recognize the security risks of climate or related environmental change.

Climate-related security discourse

Security and defence discourse

Over the past two decades, China has tended to employ a wide and comprehensive definition of security, within which environmental issues have always held a place. The defence white paper 'China's National Defense in 1998' mentioned 'environmental pollution' as a transnational 'threat to international security'.[7] The Ministry of Foreign Affairs' 'Position paper on the new security concept' (2002) later expanded its list of transnational threats to include the 'environment' within its new post-cold war concept of international security.[8] The first official, specific reference to 'climate change' within the defence sector was in 2008 when the defence white paper published that year listed climate change as a global challenge, alongside such issues as terrorism, environmental disasters, serious epidemics, transnational crime and piracy.[9] Climate change was referred to again in the 2010 defence white paper, but it was not mentioned in the subsequent white papers 'The diversified employment of China's armed forces' and 'China's military strategy', released in 2013 and 2015 respectively. The 2013 white paper referenced the armed forces' task of 'promoting ecological progress and protecting the environment' within their broader mandate to support national economic and social development, as well as conducting emergency rescue and disaster relief (with an emphasis on natural disasters).[10] In the 2015 white paper, climate change impacts may be assumed to fall under the category 'subsistence and development security concerns, as well as traditional and non-traditional security threats'—but climate was not mentioned explicitly.[11]

Speeches and international forum debates

Official Chinese discourse in other contexts shows that the government is comfortable in recognizing that climate change may have harder security implications. In the 2014 US–China Joint Announcement on Climate Change, the topic was recognized as 'one of the greatest threats facing humanity', the tackling of which 'will also strengthen national and international security'.[12] In his keynote speech at the Boao Forum for Asia in 2015, President Xi Jinping made reference to climate change

[6] See e.g. National Development and Reform Commission of the People's Republic of China, 'China's policies and actions for addressing climate change (2016)', Oct. 2016, <http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf>; Nyman, J. and Zeng J., 'Securitization in Chinese climate and energy politics', WIREs Climate Change, vol. 7, no. 2 (2016), p. 7.

[7] State Council Information Office of the People's Republic of China, 'China's National Defense in 1998', July 1998, <http://www.china.org.cn/e-white/5/index.htm>.

[8] Chinese Ministry of Foreign Affairs, 'China's position paper on the New Security Concept', 31 July 2002, <http://www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/gjs_665170/gjzzyhy_665174/2612_665212/2614_665216/t15319.shtml>.

[9] State Council Information Office of the People's Republic of China, 'China's National Defense in 2008', 20 Jan. 2009, <http://www.china.org.cn/government/whitepaper/node_7060059.htm>.

[10] The armed forces includes the People's Liberation Army (PLA) and the People's Armed Police Force (PAPF). State Council Information Office of the People's Republic of China, 'The diversified employment of China's armed forces', Apr. 2013 <http://eng.mod.gov.cn/Database/WhitePapers/2012.htm>.

[11] State Council Information Office of the People's Republic of China, 'China's military strategy' (full text), 27 May 2015, <http://english.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm>.

[12] White House, Office of the Press Secretary, 'US–China joint announcement on climate change', 11 Nov. 2014, <https://obamawhitehouse.archives.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>.

as a non-traditional security threat and global challenge.[13] The same year, Foreign Minister, Wang Yi, in a speech at the Fourth World Peace Forum, referred to climate change as a security challenge that China is actively taking responsibility for at international level, alongside its counterterrorism, anti-drug trafficking and cybersecurity efforts.[14] During his keynote speech at the G20 Summit in Hangzhou in September 2016, Xi Jinping mentioned climate change as one of many complex geopolitical factors and regional hot-spot issues, together with 'political and security conflicts and turmoil', the 'refugee crisis' and 'terrorism': this grouping of issues was reiterated at the same summit by State Councillor Yang Jiechi.[15] In 2017 Executive Vice Foreign Minister, Zhang Yesui at the Sixth World Peace Forum stated that climate change is a 'common menace to mankind', and later referenced it alongside other transnational concerns such as cybersecurity and public health security.[16] However, these speeches have been somewhat superficial and have not been linked any specific follow-up or more concrete institutional responses. Overall, in both defence papers and speeches by state officials, references to climate change as a global security threat have only ever been on a rhetorical level, grouped together with other challenges to global governance, with very few specific impacts to Chinese national security listed.

Moreover, this recognition has not penetrated into its position within the UN Security Council. China has rejected the suggestion that the UN Security Council has a role to play in debating climate change—with UN permanent representatives from China stressing (in both the 2007 and 2011 debates) that climate change is essentially an issue of sustainable development rather than one of peace and security, and that the Security Council is not a legitimate body for the consideration of these issues.[17] Recently, however, China seems to be undergoing a shift in its position. In most recent UN Security Council debates on related topics, China's stance on the narrowness of security issues within the Security Council purview has softened. At a November 2016 Security Council Arria-formula debate on water, peace and security, Ambassador Liu Jieyi stated that the problem of water 'is not only a development issue, it also has a bearing on peace and security' and spoke proactively of removing 'the root causes of conflicts driven by water scarcity'—in other words, of prevention through concrete mechanisms.[18] This position was reiterated during a June 2017 Security Council session on preventative diplomacy and transboundary waters when Ambassador Liu used similar language to explicitly link management of water resources to peace and security.[19] This new position was in contrast to that of Russia at the same debates: Russia has maintained consistent objections to such topics being brought forth within the

[13] President Xi Jinping, 'Towards a community of common destiny and a new future for Asia', Chinese Ministry of Foreign Affairs, 28 Mar. 2015, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1250690.shtml>.

[14] Yi, W. 'China's role in the global and regional order: participant, facilitator and contributor', Chinese Ministry of Foreign Affairs, 27 June 2015, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1276595.shtml>.

[15] Chinese Ministry of Foreign Affairs, 'Yang Jiechi gives interview on G20 Hangzhou Summit', 7 Sep. 2017, http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1396161.shtml and President Xi Jinping, 'A new starting point for China's development. A new blueprint for global growth', Chinese Ministry of Foreign Affairs, 3 Sep. 2016, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1396112.shtml>.

[16] Chinese Ministry of Foreign Affairs, 'Speech by Executive Vice Foreign Minister Zhang Yesui at the luncheon of the Sixth World Peace Forum', 24 June 2017, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1473139.shtml>. See also Government of the People's Republic of China, Ministry of Foreign Affairs, 'Working together to address global security challenges and build a community of shared future for mankind', 24 June 2017, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1472952.shtml>.

[17] Bo, Y., 'Securitization and Chinese climate change policy', *China Political Science Review*, vol. 1 (2016), pp. 99-103.

[18] Permanent Mission of the People's Republic of China to the UN, 'Statement by Ambassador Liu Jieyi at the Security Council Debate on Water, Peace and Security', 22 Nov. 2016, <http://www.china-un.org/eng/dbtxx/ambliu/activities/t1420634.htm>.

[19] Permanent Mission of the People's Republic of China to the UN, 'Statement by Ambassador Liu Jieyi at the Security Council Ministerial Debate on Preventive Diplomacy and Transboundary Waters', 6 June 2017, <http://www.china-un.org/eng/dbtxx/ambliu/activities/t1483383.htm>.

Security Council framework. However, what China's shift in these debates will mean for climate security more broadly is perhaps too early to say.

Related 'holistic security' discourse

In 2014 Xi Jinping announced a new 'holistic' national security strategy, which includes 'ecological security' and 'natural resource security' alongside nine other security dimensions. The 11 dimensions fall within both traditional and non-traditional domains, and encompass both internal and external aspects.[20] 'Ecological security' (生态安全) is a term that in fact had some internal policy traction within China long before Xi's announcement.[21] As an area of national security, however, the concept can be traced back to the Third Plenary Session of the 18th National Congress of the Communist Party of China, in November 2012, and the government's promotion of a strategic drive for China to become an 'ecological civilization'.[22] Indeed, in 2015 the Communist Party's Central Compilation and Translation Bureau, in accordance with the language of the 18th Party Congress, announced 18 new and important terms for the 'central' literature, among them 'national ecological security' and 'global ecological security'.[23] In terms of foreign and external policy, when announcing his New Asian Security Concept (NASC) in 2014 Xi Jinping mentioned shared regional challenges of 'environmental security . . . energy and resource security and major natural disasters', although an explicit mention of climate change was absent.[24] Two months later at the Eco-Forum Global Annual Conference, Vice President Li Yuanchao made a speech in which he also referenced the aforementioned 'global ecological security'.[25]

While the concept of ecological security does not originate from within the foreign policy or defence apparatuses, nor is it currently widely used by such actors. However, under Xi's new holistic security concept, national security is more broadly conceived of within governmental policy, and more domestically oriented agencies and ministries are also now appropriating and even shaping the language of security. This includes for instance the NDRC—the central agency in charge of the country's economic and social development policies (and in charge of climate change policies writ large).

In April 2017 the National Development and Reform Commission (NDRC) stated that ecological security is an important cornerstone for national security, defining the term as 'mainly referring to the ability of a country to support a more complete development, for its ecological system to not be subject to threats, and its ability to respond to important internal and external ecological problems'.[26] In order to maintain ecological security, according to the NDRC, China is required to 'increase the ability to adapt to climate change, especially extreme weather and climate events; to constructively participate in international negotiations on climate change; and to promote a

[20] Xinhua News, '习近平：坚持总体国家安全观 走中国特色国家安全道路' [Xi Jinping: Adhere to the perspective of comprehensive security, taking the path of security with Chinese characteristics], 15 Apr. 2014, <http://news.xinhuanet.com/politics/2014-04/15/c_1110253910.htm>.

[21] China Meteorological Administration, '气候变化与生态安全' [Climate change and ecological security], <http://www.cma.gov.cn/kppd/kppdqxsj/kppdqhbh/201212/t20121218_198065.html>.

[22] Government of the People's Republic of China, National Development and Reform Commission, '国家发展改革委有关负责同志就维护国家生态安全答记者问' [Relevant officials within the NDRC respond to report questions on the maintenance of ecological security], 15 Apr. 2017, <http://www.ndrc.gov.cn/gzdt/201704/t20170415_844396.html>.

[23] Central Compilation and Translation Bureau, '中央文献重要术语译文发布（2015年第八期）' [Announcement of important new terms in central literature (2015 Issue 8)], 19 Nov. 2015, <http://www.cctb.net/bygz/zywxsy/201511/t20151113_331161.htm>.

[24] President Xi Jinping, 'New Asian security concept for new progress in security cooperation: remarks at the Fourth Summit of the Conference on Interaction and Confidence Building Measures in Asia' Chinese Ministry of Foreign Affairs, 21 May 2014, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1159951.shtml>.

[25] Li, Y., 'Mankind and ecology: balanced development', Government of the People's Republic of China, Ministry of Foreign Affairs, 11 July 2014, <http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1186269.shtml>.

[26] Li (note 25).

fair and legitimate global response to the pattern of climate change'.[27] This message was propagated through media outlets on China's second National Security Day in April 2017, suggesting high-level political sanctioning of these terms of discourse.[28]

Resource security, another dimension of Xi's holistic national security, relates to the security of food, water, energy and mineral resources, and here is perhaps where the threat of climate change is more explicit and clear. However, as the country's foremost climate security scholar Zhang Haibin argues, eight out of the eleven national security dimensions of Xi's new concept are in fact impacted by climate change.[29] He argues that in opening up the analytical framework of national security—particularly in terms of linking together internal and external, non-traditional and traditional, and security with development threats—the new holistic security concept will permit climate-specific security discourse to have greater resonance with the Chinese leadership.[30]

Climate security advocacy

Policy discourse regarding security impacts specific to climate change has gained some momentum, consideration of which is being advocated for by officials outside the military and foreign policy sphere. For example the China Meteorological Administration (CMA) under the State Council has referred to 'climate security' in official statements and publications, and continues to play an advocacy role to mainstream the term and concept throughout the government.[31] In 2016 the deputy director of CMA, Yu Yukong, who is also a member of the Chinese People's Political Consultative Conference (CPPCC) Standing Committee, submitted a proposal to incorporate climate security into the national security system. In an interview published on CMA's website, he stated:

> It is noteworthy that climate change is also affecting [national] defense security and global security. Since 2004, the US Defense Department has released an annual report on the impact of climate change on US national security. Unlike traditional security threats, global climate change will influence the supply and distribution of food, water, energy and other strategic resources, intensifying existing regional conflicts, exacerbating tensions and destabilizing factors, triggering social unrest and border conflicts, thereby disrupting the existing international order and geopolitical patterns.[32]

This viewpoint has been posited numerous times by CMA director, Zheng Guoguang, who stated in an article in the *People's Daily* (the official newspaper of the Chinese Communist Party) in 2014, 'climate change has already posed severe challenges to China's national security'.[33] Zheng argued earlier in 2011, in an official capacity, that

> Global warming is already influencing China's natural ecological system and economic and social development, poses a threat to China's food security, water resource security, ecological security, environmental security, energy security, major projects security, economic security, and other traditional and non-traditional security issues—posing a severe challenge to national security.[34]

[27] Li (note 25).

[28] China Central Television, '普及总体国家安全观　生态安全: 国家安全体系的基石' [Popularizing the comprehensive national security concept – ecological security: the cornerstone of the national security system], <http://news.cctv.com/2017/04/15/ARTIBIiMk814pPdrFvelgiZu170415.shtml>.

[29] Zhang (note 1); and Bo (note 17).

[30] Zhang (note 1).

[31] Zheng, G., '科学认知气候变化　高度重视气候安全' [Scientifically comprehend climate change, and heighten attention to climate security], China Meteorological Administration, <http://www.cma.gov.cn/2011zwxx/2011zbmgk/2011zjld/2011zjzzgg/2011zjzggldjh/201504/t20150429_280814.html>.

[32] China Meteorological Administration, '全国政协常委宇如聪呼吁立足气候安全　科学应对气候变化' [CPPCC Standing Committee member Yu Yukong calls for climate security science to deal with climate change], 6 Mar. 2016, <http://www.cma.gov.cn/2011xwzx/2011xqxxw/2011xqxyw/201603/t20160306_305737.html>.

[33] Bo (note 17).

[34] Zheng (note 31).

In addition to the explicit linkage to national security made by the CMA, *The Third National Assessment Report on Climate Change* (the national equivalent of the International Panel on Climate Change (IPCC) Assessment Report), published in 2015, dedicates an entire section to the national security implications of climate change, stating:

> The shrinking of river flows caused by the melting away of glaciers in western China may lead to struggles over cross-border water resources and surges of transnational migration, triggering international disputes and conflict ... Overall, climate change could have a broad impact on China's national security, but for now that is mainly latent.[35]

It also states that disaster prevention and disaster reduction/mitigation should be the main content of the policy response to climate change, although its overall focus remains on the negative developmental impacts rather than security implications.[36]

Despite these signs, however, there is so far little indication that these overtures have been taken up by national leaders. The term 'climate security' has not resonated with other departments outside the CMA, and the 2015 National Assessment Report on Climate Change is not an official government document.

Institutionalization

Mitigation, adaption and planning for the adverse effects of climate change are broadly and relatively robustly accelerating in China, as detailed in the 2008, 2011, 2012, 2013, 2014, 2015, and 2017 policy and action documents, and the 12th and 13th Five-Year Plans (2011–2015 and 2016–2020 respectively). The details of these policies and their implementation go beyond the scope of this paper. However, within the military there has in fact been practical recognition of the risks that climate change poses to China's defence and to military operations specifically, and some action has been taken.

According to Zhang, the PLA has conducted an evaluation of the impacts of climate change on China's national defence and on military construction, although the results have not been made publicly available. Relevant reports, however, have made clear its conclusions, in particular that the increase in extreme weather events 'threaten[s] the security of military personnel, equipment, and facilities, affecting weaponry, restricting the formation and improvement of combat effectiveness'.[37] Sea-level rise, in addition, was assessed to be directly affecting the 'deployment of military strategy and battlefield construction on islands and coasts'.[38] As such in 2008 the PLA established a Military Climate Change Expert Commission. Comprising of experts drawn from a range of backgrounds, including civilian ministries, agencies and departments, the commission is tasked with exploring the impact of climate change on military operations and construction, providing reliable meteorological decision making and technical support to help guide adaptation for an ever widening range of both non-military and military tasks—including disaster prevention and relief operations.[39] Here

[35] This report is co-authored by state-appointed experts from the Ministry of Science and Technology, the CMA and the Chinese Academy of Sciences, among other organizations and departments. The full version is not available online; it is only for purchase and in Chinese. Buckley, C., 'Chinese report on Climate Change depicts somber scenarios', *New York Times*, 29 Nov. 2015.

[36] China Meteorological Administration, '中国发布《第三次气候变化国家评估报告' [China releases the Third National Assessment Report on Climate Change], 7 Dec. 2014, <http://www.cma.gov.cn/2011xwzx/2011xqxxw/2011xqxyw/201412/t20141207_269047.html>.

[37] Zhang (note 1), p. 19.

[38] Zhang (note 1), p. 19.

[39] Zhang (note 1).

it is notable that the PLA has the main responsibility for operationally responding to emergencies inside China.[40]

The Meteorology and Hydrology Bureau of the PLA's General Staff has established specialized bodies to study climate change. The General Logistics Department of the PLA held a 2013 report meeting on the 'Military response to climate change', and the military has also been involved in society-wide climate mitigation that the government mandated through its 'National Action Plan of Energy-saving and Emission Reduction' during the 12th Five-Year Plan in 2012.[41] However, none of these developments have otherwise resulted in official and 'authoritative statements from the army on the issue' of climate change and security.[42] Moreover, since then very little information on the activities of the Military Climate Change Expert Commission has been made available, and it is not clear whether or not the commission has become defunct. It is perhaps most telling, regarding the lack of integrated policy thinking, that the National Response to Climate Change Leadership Group (a high-level committee which acts as the coordinating body for the country's climate change activities set up in 2007) currently has no representatives from the PLA or the security sector.[43] In other words, at this point in time, there seems to be only limited so-called 'climatization' of the security sector: evidence speaks against climate change having become a more robust policy issue within the purview or mandate of security actors.[44]

Prospects

Presently, China continues to address climate change primarily within the framework of its development policy, with little input or involvement from the security sector. Its emphasis on the developmental implications of climate change is unsurprising, given that the state apparatus has, for the past few decades, been almost exclusively focused on domestic economic development as the foundation for political legitimacy, and therefore its key priority. But there is increasing recognition from certain departments that climate change does affect elements of national security. The fruits of their advocacy efforts remain to be seen.

There has been official recognition that climate change will have adverse effects on international security, but this has not necessarily resulted in any meaningful security response or preparation. However, China's limited interest in addressing international security risks needs to be seen in the context of China as a nascent global security actor in terms of military assets abroad, foreign overseas military operations, and an interventionist foreign policy. Indeed, China holds that climate security is 'embedded in its homeland security', and any mentions of specific international or transnational climate-related security risks are not especially prominent in the official discourse.[45] In other words the focus of China's national security discourse is to a large degree nationally bounded. Furthermore, within this, climate change is largely defined as a second-order risk—only relevant insofar as it affects the more explicit security

[40] Renwick, N., 'China's approach to disaster risk reduction: human security challenges in a time of climate change', *Journal of Asian Security and International Affairs*, vol. 4 (2017), pp. 1, 43.

[41] See Government of the People's Republic of China, National Development and Reform Commission, Ministry of Education, Ministry of Science and Technology, Central Propaganda, 'The Whole Society Action Plan of Energy-saving and Emission Reduction During the Twelfth Five Year Plan', 31 Jan. 2012; Bo (note 17), p. 109.

[42] Freeman 2010 quoted in Bo (note 17), p. 94.

[43] Government of the People's Republic of China, National Development and Reform Commission, '国家应对气候变化领导小组' [National Response to Climate Change Leadership Group], [n.d.] <http://qhs.ndrc.gov.cn/ldxz/>.

[44] Oels, A., 'From "securitization" of climate change to "climatization" of the security field: comparing three theoretical perspectives', in J. Scheffran et al. (eds), Climate Change, Human Security and Violent Conflict, Hexagon Series on Human and Environmental Security and Peace (Springer: Berlin, 2012).

[45] Bo (note 17), p. 107.

concerns of natural resource security (food, water, energy) and ecological security, which is more linked to adaptation efforts and resilience (see above).

However, China's overseas interests have rapidly expanded along with its economic footprint abroad in the past two decades. Beyond significantly increasing its UN peacekeeping contributions, it has acted as a political mediator in a number of regional security situations, upped its international humanitarian and disaster relief operations and assistance, and has overall exhibited greater willingness to engage in issues of global governance—including climate change. China under Xi Jinping is becoming much more proactive in the security realm, particularly regionally. As can be posited by its subtle shifts in the UN Security Council, this may in the future entail much more willingness to entertain the idea of climate change outside of sustainable development, as a formal topic of peace and security.

3. Russia

Overview

Over nearly three decades since the breakup of the Soviet Union, climate change has been a low priority for the Russian Government, which has on the whole been a relatively recalcitrant actor in international climate politics. In recent years climate change has begun to emerge in official security-related documents, which depict it as a challenge of both global and national concern. However, beyond the official discourse it is difficult to see a more concrete interest or movement in Russia's security establishment for actively mitigating or preparing for climate change impacts. Russia's military has not mainstreamed climate change into its strategy, planning, operations or missions. The sole exception to this is in relation to the Arctic region, a zone of 'special interests', where melting ice is expected to provide greater access to substantial natural resources, strategic space for Russia's northern military fleet, as well as greater international traffic and economic activity through the Northern Sea Route.[1] Although climate risk assessments for the state have been conducted within relevant ministries, on the whole climate change is not considered a security concern either internationally or domestically.

As in the case of China, however, the Russian Government has begun to pay more substantial attention to the topic of environmental security—of which climate change is one component. The term 'environmental security' has to an extent been mainstreamed into the security apparatus, although the concept focuses mostly on domestic concerns—particularly as it relates to a number of sectorial issues (food, energy, water), natural resource management and environmental degradation. International environmental cooperation has also emerged as an area of foreign policy, but overall Russia has so far opposed connecting climate change to issues of peace and security, and has opposed the United Nations Security Council taking up this topic since the debate began in 2007.[2]

Climate-related security discourse

Security and defence discourse

At present, concern about adverse climate impacts has not entered into the more traditional security sector. Although the strategic planning document Russia's Military Doctrine has been periodically updated, the text of the most recent version from 2014, makes no mention of climate change or environmental issues.[3] The 'maritime doctrine of the Russian Federation up to 2030', adopted in July 2015, a document that elaborates on Russia's fundamental naval policy, makes reference to climate change only within a subsection on Antarctica policy.[4] Indeed, as far as can be gleaned, outside of Arctic issues (see below), climate change plays very little part in the thinking and planning of the defence and military apparatus proper. This stands in contrast to the USA, where

[1] Berg, K. and Klimenko, E., 'Understanding national approaches to security in the Arctic', eds L. Jakobson and N. Melvin, *The New Artic Governance*, SIPRI Research Report no. 25 (SIPRI: Stockholm, 2016).

[2] United Nations, 'Security council holds first-ever debate on impact of climate change on peace, security, hearing over 50 speakers', 17 Apr. 2007, <http://www.un.org/press/en/2007/sc9000.doc.htm>.

[3] Russian Government, 'Russian National Security Strategy—full-text translation', Dec. 2015, <http://www.ieee.es/Galerias/fichero/OtrasPublicaciones/Internacional/2016/Russian-National-Security-Strategy-31Dec2015.pdf>.

[4] Russian Government, [Marine Doctrine of the Russian Federation up to 2030], <http://fondrosflot.ru/?q=collegium/proekt-morskoy-doktriny-rossiyskoy-federacii-do-2030-goda#_Toc338495302> (in Russian).

military and defence actors have been the primary drivers and proponents for climate security thinking.

If climate security is largely absent in the military arena, it is only a slightly more substantive element within Russia's foreign policy apparatus. The last two Foreign Policy Concepts of the Russian Federation, in 2013 and again in 2016, mention climate change as one of the many 'new transborder threats and challenges' the world is facing, and state that the country is in favour of widening international cooperation in relation to environmental security and combating climate change. However, the guidance goes no deeper than that.

Speeches and international forum debates

In public appearances and interviews over the years President Vladimir Putin's view on climate change has bordered on sardonic dismissal. For instance during his first presidential term in 2003, Putin stated that Russians would 'spend less on fur coats' and commented 'agricultural specialists say our grain production will increase, and thank God for that'.[5] There was a change in official rhetoric during the presidency of Dmitry Medvedev, who in 2009 stated during a state visit to Singapore that 'if we don't take joint action, the consequences for the planet may be very distressing to the point that the Arctic and Antarctic ice can melt and change ocean levels . . . all of this will have catastrophic consequences'.[6] In 2010 Medvedev explicitly connected Russia's worst on-recorded heatwave and devastating wildfires to global climate change, stating: 'What's happening with the planet's climate right now needs to be a wake-up call to all of us, meaning all heads of state, all heads of social organizations, in order to take a more energetic approach to countering the global changes to the climate.'[7] Since his re-election in 2012, Putin has also made statements affirming the serious of the issue. In remarks made at 2015 UN Climate Change Conference (COP21), he stated that 'climate change has become one of the gravest challenges humanity is facing'.[8] Overall, however his position has been consistently blasé. In recent remarks given in April 2017 he openly questioned the anthropogenic nature of climate change, pointing to the benefits climate change has brought to the northern regions as well as to Russia's gross domestic product (GDP), and stating that opponents of climate change 'may not be at all silly'.[9]

Current Foreign Minister, Sergey Lavrov has on occasion mentioned climate change alongside other more traditional and non-traditional peace and security challenges, but has not pursued the topic of climate security in any detail. Like China, Russia has long held the position that climate change is not an issue that falls within the mandate of the UN Security Council. While it had previously voted in favour of the 2009 UN General Assembly Resolution 63/281 on climate security as part of a compromise, it has remained resolutely against the idea that the topic belongs in the Security Council.

[5] Kuzmin, A., 'Russian media take climate cue from skeptical Putin', Reuters, 29 Oct. 2015, <http://www.reuters.com/article/us-climatechange-summit-russia-media-idUSKCN0SN1GI20151029>.

[6] Shchedrov, O., 'Russia's Medvedev warns of climate catastrophe', Reuters, 16 Nov. 2009, <http://www.reuters.com/article/us-climate-russia-idUSTRE5AF1SU20091116>.

[7] Shuster, S., 'Will Russia's heat wave end its global-warming doubts?', *TIME*, 2 Aug. 2010, <http://content.time.com/time/world/article/0,8599,2008081,00.html>.

[8] Davenport, C., 'A change in tone for Vladimir Putin's climate change pledges', *New York Times*, 1 Dec. 2015, <https://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/vladimir-putin-climate-change-pledges-russia>.

[9] In addition to an interview at the St Petersburg International Economic Forum in Mar. 2017 <https://www.cnbc.com/2017/03/30/vladimir-putin-russia-trump-us-climate-policy.html>.

Russia expressed later that the General Assembly report (A/64/350) pursuant to the 2009 resolution,

> does not contain serious arguments to support the position of those States advocating that this issue be placed on the [Security] Council's agenda. The report refers only to hypothetic impacts of climate change on security and is not able to precisely predict them. It fails to provide empirical data establishing any correlation between these phenomena… It is very telling that the Security Council is not once referred to in the report.[10]

Without outright rejecting the relevance of climate change to international peace and security issues, the Russian UN delegation has therefore been consistently dismissive of the degree to which the issue should be of genuine concern to dedicated peace and security-focused bodies. Like China, Russia posits that adverse impacts are largely questions of sustainable and socioeconomic development, for which the UN Security Council does not have a mandate. In a statement at the 2011 German-led Security Council debate, the Russian delegation held that 'involving the Security Council in a regular review of the issue of climate change would bring no added value whatsoever and would merely lead to a further politicization of the issue and increased disagreements among countries'.[11] Russia's comments at a 2016 briefing on challenges to the Sahel continued this line, that 'the Security Council does not possess comprehensive expertise on issues of socioeconomic development and the protection of the environment'.[12]

Russian representatives at the UN Security Council have also been highly resistant to consider the issues of natural resource scarcity and resources disputes, as evidenced in a November 2016 Security Council open debate on water, peace and security, and the June 2017 Security Council session on preventative diplomacy and transboundary waters. Chargé d'affaires, Petr Iliichev stated at the 2016 debate that 'natural resources, in and of themselves are neutral in nature' and strongly criticized 'securitizing the issue of water'. He continued speaking out against 'the advisability of involving the Security Council in various issues relating to sustainable development, as well as involving other non-core United Nations agencies that do not have the appropriate expertise and tools and cannot, therefore, bring added value to discussions on the topic'.[13] Similar rhetoric was repeated by Iliichev during the June 2017 debate.[14]

Thus while there has been an increase in official rhetoric relating climate change to national security in recent years, they remain at a relatively superficial level. Although specific climate-related threats have been mentioned in various policy documents, mechanisms for response are largely missing, and follow-up has been slow. Outside of Arctic issues, the impacts of climatic changes on national security are considered to be of greater relevance to environmental and economic security, other sectorial strategies (food, water, energy), aspects of individual and societal well-being, sustainable

[10] United Nations, Security Council, 6587th Meeting, S/PV.6587, 20 July 2011, p. 13, <http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/CC%20SPV%206587.pdf>.

[11] United Nations (note 10).

[12] United Nations, Security Council, 'Accelerated regional action, intensified international support critical to resolving Sahel challenges, key officials tell Security Council', SC/12378, 26 May 2016, <https://www.un.org/press/en/2016/sc12378.doc.htm>.

[13] United Nations, Security Council, 7818th Meeting, S/PV.7818, 22 Nov. 2016, <https://digitallibrary.un.org/record/849977/files/S_PV.7818-EN.pdf>.

[14] Permanent Mission of the Russian Federation to the United Nations, 'Statement by Mr Petr Iliichev, Chargé d'Affaires, at the Security Council on maintenance of international peace and security: Preventive diplomacy and transboundary waters', 6 June 2017 <http://russiaun.ru/en/news/sc_coc>.

development, and disaster relief and management—and in these respects, mostly at a domestic rather than an international level.

Related 'environmental security' discourse

Notwithstanding a foreign security posture that is heavily militarized and focused on state-centric threats, Russia's concept of national security is in fact relatively broad and multidimensional. As its most recent 2015 National Security Strategy (NSS) states, 'national security includes the country's defense and all types of security . . . primarily state, public, informational, *environmental*, economic, transportation, and energy security and individual security'.[15] Starting with the first National Security Concept published under Yeltsin in 1997, environmental security (экологическая безопасность) has featured as a discrete subsection focused on issues such as natural resource management, environmental degradation and pollution. Over the years, the notion of environmental security has increasingly come to encompass climate change and its impacts: the 2009 NSS made the first single reference to climate change, positing that ensuring national security requires 'redressing the environmental consequences of economic activity in the context of a growing economy and global climate changes'. In the most recent 2015 NSS, climate change has grown in importance, with 'natural disasters, accidents, and catastrophes, including those connected with climate change' put forward as a main threat to state and public security. However, the 2015 NSS does not go any further, with the state's putative response to its impacts being merely 'the elimination of environmental damage from business activity'.[16]

Environmental security has thus *on paper* been considered by the Russian Government to be related to national security for quite some time, and there is an indication that the issue has been gaining more attention. In April 2017 Putin approved the 'Environmental security strategy of the Russian Federation for the period up to 2025', updating a document that had not been revisited since 2002. In this new strategy document environmental security was defined as the 'protection of environment and vital human interests from the possible negative impacts of economic (and other kinds of) actions, as well as from natural and man-made disasters and their consequences' and was called an 'essential component of national security'.

Within the 2017 Environmental security strategy, climate change was deemed one of four long-term threats to the environmental security of Russia, a 'threat of a planetary nature' with 'transboundary impacts'. Concrete negative impacts were listed, including: 'a continuous increase in the number of abnormal weather events, which often take the form of an emergency . . . shift of geographical zones . . . damage to biological diversity . . . [and] accelerated melting of Arctic sea ice lead[ing] to disruption of the natural food chains in the Arctic'. There was no elaboration of the direct negative impacts to society or to human well-being, but climate change was later mentioned together with 'dangerous natural phenomena, which can lead to catastrophic changes in the environment of Russia'.[17] While the 2017 Environmental security strategy was officially released as a product of the Ministry of Natural Resources and Ecology, their work was overseen by the Security Council of Russia—which will also play a

[15] Russian Government (note 3).
[16] Russian Government (note 3).
[17] Russian Government, [Environmental security strategy of the Russian Federation for the period up to 2025], 19 Apr. 2017, <http://docs.cntd.ru/document/420396664> (in Russian).

coordinating role in the strategy's implementation.[18] The document states that it is published in alignment with NSS 2015.

Related resource security discourse

As outlined above, national security in Russia is conceived of quite broadly. The degree to which environmental issues are embedded into national security discourse should not in fact be surprising: within the Russian political context a very broad array of policy issues—including food, health, the economy and transportation—are defined in state-centric security terms. The linking is not necessarily a means to summon more state resources and attention to bear on the issue. Rather, it is simply par for the course in a country where issues as benign as the economy, food, health, transportation and even culture are seen through the lens of their impact on regime security and national strength as a whole. In this regard Russia and China share parallels in their view of national security as having significant internal socio-political and economic dimensions. Indeed even the Russian state's use of the term 'environmental security' roughly approximates with the Chinese Government's use of the concept of ecological security. However, for both countries climate change is only a tangential component of an environmental concept that focuses mostly on immediate issues such as pollution, sanitation, natural resource management and strategic commodities such as food, water, and energy. In Russia each of the latter three has a sectorial federal strategy document.

In Russia, food is explicitly connected with national security, and is listed in the 'National security strategy of 2009' as 'one of the main elements of ensuring national security in the medium term'.[19] A 'Food security doctrine' was adopted the following year, setting out quantitative targets for food self-sufficiency in a number of agricultural products to ensure the country's food independence. These very same agricultural products were subject to Russian countersanctions towards the West, starting in 2014, suggesting that food has also been conceived of and utilized as a geopolitical tool. Indeed although Russia has now emerged from the 1990s economic downturn as one of the world's top wheat exporters, Putin has voiced further ambitions for Russia to 'become the world's largest producer of food'. [20] Implicit in this statement is the notion that Russia's performance is to be viewed vis-à-vis competing states in the international trade arena.

The 'Food security doctrine' does give consideration to the impacts of climate change, mentioning that it is one of the greatest risks to ensuring the country's food security, and indeed, agriculture is one area where climatic analysis has been substantial. The risks posed by a changing climate have been included 'in all major official documents as possible obstacles for achieving agricultural development',[21] and at a UN Food and Agriculture Organization (FAO) session on Climate Change, Agriculture

[18] 'Russia to adopt ecological security strategy in 2016', *Sputnik News*, 21 Apr. 2016, <https://sputniknews.com/environment/201604211038390186-russia-ecology-2016/>.

[19] Russian Government, 'National Security Strategy of the Russian Federation to 2020, Approved by Decree of the President of the Russian Federation 12 May 2009', <http://mepoforum.sk/wp-content/uploads/2015/08/NDS-RF-2009-en.pdf>.

[20] President Vladimir Putin's address to the Federal Assembly, 2012, quoted in S. K. Wegren, 'Food Security in the Russian Federation', *Eurasian Geography and Economics*, vol. 54, no. 1 (2013), pp. 22–41.

[21] Kiselev, S. et al., 'Russia's food security and climate change: looking into the future', *Economics E-Journal*, vol. 7 (2013), pp. 2013–2039 <http://www.economics-ejournal.org/economics/journalarticles/2013-39/version_1/count>.

and Food Security in July 2017 Minister of Agriculture, Alexander Tkachyov alluded to the importance of climate issues and Russian policy responses.[22]

Water is also of great importance to the state. As the Water Strategy of the Russian Federation for the period up to 2020 states, 'the development of the Russian Federation's water management complex is one of the key factors ensuring economic prosperity and social stability, the national security of the country, and the realization of the constitutional rights of citizens to a favorable environment'.[23] Climate change is largely mainstreamed within this 2009 document, but there is little relating to global security outside general international cooperation.

As for energy resources in relation to national security, the fossil fuel industry not only comprises a major proportion of state revenue, but also acts as an essential point of leverage for Russia in its foreign trade relations (and foreign policy more generally). Nearly three-quarters of Russia's energy production comes from the traditional oil and gas industries, exports of which accounted for slightly over half the government budget in 2014, and slightly less than half in 2015.[24] This state dependency as well as the vested interests of the political elite contribute to if not result in much of the state's lacunae on climate action in general. As an illustration, Presidential Adviser on Climate Issues, Alexander Bedritsky sent his congratulations to the state-owned Gazprom company on the twentieth anniversary of its formation—comments which were publicly disseminated on its website.[25] This attitude is borne out in state policy, which has focused little to no effort on mitigation. Russia's intended national determined contribution, prepared in 2015, pledges to keep GHG emissions at 70–75 per cent of 1990 levels by 2030 (taking into account the contribution of Russia's forests as carbon sinks). But due to the post-Soviet industrial collapse, this target actually allows Russia considerable scope to increase its GHG emissions, up to 50 per cent from 2012 levels.[26] Moreover, Russia has been slow to ratify the Paris Accord.

Indeed the 'Energy strategy of Russia for the period up to 2030' states that 'the strategic objective of the foreign energy policy is the maximum use of the Russian energy potential for full-scale integration into the world energy market, enhancement of positions thereon and gaining the highest possible profit for the national economy'.[27] There is mention of a gradual reduction of greenhouse gas (GHG) emissions, and Russia is investing in the renewables and clean energy sector to a limited degree, but of likely more political salience to the country's energy strategy is concern that 'international agreements on environmental policy and climate change' are factors that increase the degree of uncertainty and risks for a stable external energy market.[28]

Climate change also features in the 'Economic security strategy of the Russian Federation to 2030', published in May 2017, as a significant determinant of the state of economic security 'capable of causing food and freshwater shortages, increasing competition for access to renewable resources, including resources of the Arctic and

[22] Ministry of Agriculture of the Russian Federation, [Alexander Tkachyev spoke at the 40th session of the FAO conference], 3 July 2017, <http://mcx.ru/press-service/news/aleksandr-tkachev-vystupil-na-40-y-sessii-konferentsii-fao/> (in Russian).

[23] Ministry of Natural Resources and the Environment of the Russian Federation, [Water Strategy of the Russian Federation from the period up to 2020], 25 May 2012, <http://www.mnr.gov.ru/regulatory/detail.php?ID=128717> (in Russian).

[24] Symon, F., 'Where does Russia stand on climate change?', News podcast, *Financial Times*, 8 June 2017, <https://www.ft.com/content/706ab369-b86b-4255-b772-d9e1ed1d7379>.

[25] Bedritsky, A., 'Congratulations from Alexander Bedritsky', Gazprom website, 2013, <http://www.gazprom.com/about/history/events/20years/congratulations/bedritskiy/>.

[26] Thomas Reuters Foundation, 'The Paris climate deal in the making', <http://reports.thomsonreuters.com/susty7/collaboration/paris-climate-deal-predictions>.

[27] Ministry of Energy of the Russian Federation, 'Energy Strategy of Russia for the Period up to 2030', 2010, <http://www.energystrategy.ru/projects/docs/ES-2030_(Eng).pdf>.

[28] Ministry of Energy of the Russian Federation (note 27).

Antarctic zones, and the waters of the Arctic Ocean'.[29] Significantly, in the document, "change in the structure of world demand for energy resources and consumption patterns, development of energy-saving technologies and the reduction of material consumption, and the development of 'green technologies'" is deemed one of the main threats and challenges to Russia's economic security.[30]

Institutionalization

There have been some efforts at the national level to address the issue of climate change. In 2009 the Russian government adopted a Climate Change Doctrine, which was followed by an implementation plan two years later.[31] However, neither document contains quantitative targets, and in general neither have led to any substantive actions.[32] A new adaptation plan is currently in progress—one that requires federal agencies and regional authorities to create a methodology for assessing the risks and damages arising from climate change. This is due to be published in 2018, and would also ideally be combined with funds for implementation.[33] Recently the city of Moscow has also invested in adaptation planning.[34]

These efforts are not framed in relation to climate change as a national security concern, but do touch upon them implicitly. The Russian Service for Hydrometeorology and Environmental Monitoring (RosHydromet), the agency under which climate-related issues are formally the purview, has estimated that economic damages from climate change could rise to 2 per cent of GDP by 2030.[35] But, although it coordinates a number of mostly internationally funded adaptation projects, this agency has on the whole adopted a culture of 'passive observation' and monitoring.[36]

One institutional advocate that has emerged in Russia's climate security debate may be the Ministry of Civil Defence, Emergency Situations and Elimination of Consequences of Natural Disasters (EMERCOM). In 2012, under the federal target programme entitled 'Reducing Risks and Mitigating the Consequences of Emergencies of Natural and Technogenic Character in the Russian Federation until 2015', EMERCOM made a 'strategic assessment of the impact of global climate change on the extent of emergencies and their frequency in areas with a high level of emergency risks', which included research on a forecast for the resources, forces and prevention measures required to respond to such emergency situations.[37] Its minister, Vladimir Puchkov, stated in 2015 that 'new threats are emerging in connection with global climate change. Permafrost is melting, earthquakes are appearing where they never were before, landslides, mud flows, gas condensate emissions and so on'.[38] As in the case of China, how-

[29] Office of the President of the Russian Federation, [Economic Security Strategy of the Russian Federation for the period up to 2030], 13 May 2017, <http://kremlin.ru/acts/bank/41921/page/1> (in Russian).

[30] Office of the President of the Russian Federation (note 29).

[31] The full titles are 'Climate Change Doctrine of the Russian Federation for the Period up to 2020' and 'Plan of Realization of Climate Doctrine of the Russian Federation'.

[32] Sharmina, M. et al., 'Climate change regional review: Russia', *WIREs Climate Change*, vol. 4 (2013), pp. 374, 389.

[33] Davydova, A., [Russia will assess damage from future weather], *Kommersant*, 2 July 2017, <https://www.kommersant.ru/doc/3212233> (in Russian).

[34] Davydova, A., 'Russia wants to protect itself from climate change—without reducing carbon emissions', *Science*, 21 Sep. 2017, <http://www.sciencemag.org/news/2017/09/russia-wants-protect-itself-climate-change-without-reducing-carbon-emissions>.

[35] Shuster, S., 'Will Russia's heat wave end its global-warming doubts?', *TIME*, 2 Aug. 2010, <http://content.time.com/time/world/article/0,8599,2008081,00.html>.

[36] Davenport, C., 'A change in tone for Vladimir Putin's climate change pledges', *New York Times*, 1 Dec. 2015, <https://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/vladimir-putin-climate-change-pledges-russia.>

[37] EMERCOM of Russia, [Activities carried out in 2012 under the Federal Target Program 'Reducing Risks and Mitigating the Consequences of Emergencies of Natural and Technogenic Character in the Russian Federation until 2015'], <http://www.mchs.gov.ru/document/3591261> (in Russian).

[38] EMERCOM of Russia, [EMERCOM of Russia is reviewing approaches to ensuring security], <http://www.mchs.gov.ru/dop/info/smi/news/item/5110761> (in Russian).

ever, the focus of efforts and attention is largely on *internal* national security. External threats including how global dimensions of climate change can affect domestic stability are largely left unspecified in most of Russia's national security documents and in discourse from security officials. As for the more formal institutionalization of climate change analysis or policy into the national security apparatus—for instance in the military—no such efforts are apparent outside of the Arctic.

Arctic issues

With the longest maritime border of the coastal states, and claim to a substantial exclusive economic zone, Russia serves to benefit in a number of ways from the melting of permanent ice in the Arctic Ocean region. In 2008 the government published Foundations of the Russian Federation's State Policy in the Arctic Until 2020 and Beyond. The document which was created with guidance from the Russian Security Council, delineates Russia's national interests in the Arctic as being: (*a*) use of the Arctic as a strategic resource base; (*b*) safeguarding the Arctic as a zone of peace and cooperation; (*c*) conservation of the Arctic's unique ecosystems; and (*d*) use of the Northern Sea Route as a national integration transport communication system. In relation to 'environmental security', the document mentions the 'safeguarding of the Arctic environment, [and] liquidation of the environmental consequences of economic activities under conditions of increasing economic activity and global climate change'.[39] It also mentions that climate may affect the sustainability of infrastructure in the Arctic, and that it is necessary to predict medium-term and longer-term climate change effects—including hazardous and catastrophic natural phenomena.[40] In 2013 a Strategy for the Development of the Arctic Zone of the Russian Federation and National Security Efforts for the Period up to 2020 was published, which overviews the main means to 'realize the sovereignty and national interests of the Russian Federation in the Arctic'.[41] Again, references to climate are mostly linked to the ecosystem, and to scientific analysis and assessment—including through international cooperation and information sharing.

In other words, there is little to no explicit linkage made between climate change and human or societal security. But as Putin stated in 2014, 'This region has traditionally been a sphere of our special interest. It is a concentration of practically all aspects of national security—military, political, economic, technological, environmental and that of resources.'[42] The substantial changes taking place in the Arctic due to climate change are liable to impact upon each of these national security domains; and in fact, it is the Russian Security Council (together with the President's Executive Office) which is responsible for both the main Arctic strategy and for coordinating all related inter-agency work.

Over the past decade the main thrust of Russia's foreign policy in the Arctic has been to focus on international cooperation with other Arctic states and partners, but there has been some concern that the region is becoming increasingly militarized as well. Military security features in both the 2008 and 2013 Arctic strategy documents. In the 2013 strategy document military security is to be ensured in part by 'maintenance of the necessary level of combat readiness of troops . . . in accordance with existing and predictable military dangers and military threats to the Russian Federation in the

[39] 'Foundations of the Russian Federation's State Policy in the Arctic Until 2020 and Beyond', 1 Dec. 2010, <http://icr.arcticportal.org/index.php?option=com_content&view=article&id=1791%3>.

[40] 'Foundations of the Russian Federation's State Policy in the Arctic Until 2020 and Beyond' (note 40).

[41] [Strategy for the Development of the Arctic Zone of the Russian Federation for the Period until 2020], 12 Oct. 2015, <http://static.government.ru/media/files/2RpSA3sctElhAGn4RN9dHrtzk0A3wZm8.pdf> (in Russian).

[42] President of Russia, 'Meeting of the Security Council on state policy in the Arctic', 22 Apr. 2014, <http://en.kremlin.ru/events/president/news/20845>.

Arctic'. The region also features in Russia's 2014 Military Strategy, which tasks the armed forces with 'protecting Russian interests in the Arctic'.[43] On 1 December 2014 a new Joint Strategic Command 'North' was created specifically for this role. In the 2015 update of the Maritime Doctrine of the Russian Federation, Russia is to 'project force into and extract energy resources from' the Arctic. The document urges 'reducing the threats to Russian national security and the maintenance of strategic stability', and the development of the Russian Navy's Northern Fleet in order to meet putative national security challenges.[44]

Other emergent security concerns noted by the government and due to the opening of Russia's northern borders and increased economic activity are: illegal movements of goods and people; vulnerability to terrorist attacks; and issues related to emergency responses.[45] Again, however, these issues are not in and of themselves linked to climate change in Russia's official discourse. In other words, it is not climate change per se that poses a security threat, but that new conditions in the Arctic require a measure of military preparation. On the whole, therefore, there are only a few narrow environmental concerns, and these are mostly portrayed as opportunities for Russia to advance its economic and strategic interests globally, rather than as threats.

[43] 'The Military Doctrine of the Russian Federation', 25 Dec. 2014, no. Pr.-2976, <https://rusemb.org.uk/press/2029>.

[44] [Maritime Doctrine of the Russian Federation until 2020] <http://fondrosflot.ru/?q=collegium/proekt-morskoy-doktriny-rossiyskoy-federacii-do-2030-goda> (in Russian).

[45] Klimenko, E., *Russia's Arctic Security Policy: Still Quiet in the High North?*, SIPRI Policy Paper no. 45 (SIPRI: Stockholm, Feb. 2016), p. 14.

4. The United States

Overview

The USA—in contrast to Russia and China—needs to be viewed in the light of a policy-making structure that is subject to debate and policy reversal, particularly following elections and political turnover. This is particularly the case due to a lack of bipartisan agreement regarding the urgency, impacts and even existence of climate change. Nevertheless, the distinct climate-related security policies of the USA have been in the vanguard among the other P5 countries. Much of this developed under President Barak Obama (2009–16), when attention to the topic was accelerated and was ultimately mainstreamed across the entire national security apparatus.[1] Large portions of those federal policies have been dismantled by President Donald J. Trump, but certain policy elements and programmes remain. Moreover, pre-Trump knowledge formation regarding the security risks of climate change have left a lasting mark on national security actors. This section describes ever-changing discourse, policy and practice in relation to climate change security in the USA, while also delving into the more durable institutionalization (and indeed socialization) of climate security thinking within the state's military and foreign policy structures.

Climate-related security discourse

Security and defense discourse

Climate-related security discourse in the USA emerged in the late 1980s and early 1990s, but gained greater momentum during the Clinton administration.[2] The 1988 National Security Strategy (NSS) made reference to environmental concerns, but the first specific mention of climate change in national security strategies was made in the 1991 NSS of President George H. W. Bush (served 1989–93). By the time the 1994 NSS was issued, under President Clinton (served 1993–2001), climate change was referred to as being among 'the range of environmental risks serious enough to jeopardize international stability', with the 1997 NSS referring to climate change specifically as posing 'grave dangers to our nation and the world'.[3] Indicative of the degree to which the Clinton–Gore administration took into consideration environmental issues, in 1993 the Department of Defense (DOD) established an Office of the Deputy Under Secretary of Defense–Environmental Security (ODUD–ES), tasked with overseeing the DOD's environmental footprint and other topics related to environmental aspects of security.[4] This strand of policy receded following the election of George W. Bush (2001–2008), who cut funding, revoked executive orders and renamed the ODUD–ES the Office of the Deputy Under Secretary of Defense–Installations & Environment

[1] See EO 13653 and EO 13693; see also Flavelle, C., 'To protect climate money, Obama stashed it where it's hard to find', *Bloomberg Business News*, 15 Mar. 2017 <https://www.bloomberg.com/news/articles/2017-03-15/cutting-climate-spending-made-harder-by-obama-s-budget-tactics>.

[2] See Diez, T. et al., *The Securitisation of Climate Change: Actors, Processes and Consequences*, PRIO (Routledge: New York, 2016), pp. 37–40.

[3] See Historical Office, Office of the Secretary of Defense <http://history.defense.gov/Historical-Sources/National-Security-Strategy/>.

[4] Under the DUSD-ES Sherri Goodman, what is putatively the first official DOD document to specifically address climate change was released, titled 'US Department of Defense: Climate change, energy efficiency, and ozone protection'.

(ODUD–I&E).[5] References to climate change impacts were also absent in the 2006 NSS.[6]

What may be considered a second wave of the climate security debate in the USA emerged in the 2000s. A military report of climate change-related risks was released in 2003 from the DOD Office of Net Assessment. Although the report had limited impact, by 2006 the National Intelligence Council (NIC)[7] had also assessed that the topic warranted greater attention, and in 2008 it published two reports. These reports stated that among other adverse effects, climate change could negatively affect national security through damages to lives, property, the domestic stability of other states, resource security and the global economy.[8] The 2008 National Defense Strategy also made reference to the fact that 'climate pressures may generate new security challenges' and noted the 'need to tackle climate change'.[9] These official documents came in the wake of a watershed year for climate security debates, during which the influential CNA report *National Security and the Threat of Climate Change* was published describing climate change as a 'threat multiplier'—a description which has continued to be used in the USA as well as across the international security community. The influence of government as well as non-government discourse has been such that the National Defense Authorization Act for Fiscal Year 2008 (passed by a Democrat-controlled Congress in 2007) required subsequent national security and defence strategies to include guidance for assessments of risks, updates to defence plans and development of capabilities to address the future impacts of climate change.[10]

The US defence and intelligence community has thus long advocated for recognition of the reality of climate change and its national security implications. Notwithstanding, the climate scepticism of elected political officials, this has been consistent across both Republican and Democratic administrations. All three of the former Secretaries of Defense (former Secretaries Panetta, Hagel and Carter) as well as the current Secretary of Defense, James Mattis, have made statements confirming that climate change poses a threat to national security.[11] A distillation of the threat analyses can be found in documents such as 'Findings from Select Federal Reports: The National Security Implications of a Changing Climate' (2015) and 'Implications for US National Security of Anticipated Climate Change' (2016), documents released by the White House and the National Intelligence Council respectively.[12]

Within the defence sector specifically, in 2010, acting in line with a Congressional mandate, the DOD released a Quadrennial Defense Review (QDR)—the main document establishing the department's strategy and priorities over a four-year period. The 2010 QDR affirmed prior intelligence community assessments that climate change 'could have significant geopolitical impacts around the world' and 'may act as an accelerant of instability or conflict'. It stated that climate change would affect

[5] This now exists as the Office of the Assistant Secretary of Defense (Energy, Installations, and Environment).

[6] See note 3.

[7] The NIC coordinates the work of all the government intelligence agencies (currently 17 separate agencies across the federal government).

[8] National Intelligence Council, National Security Implications of Global Climate Change to 2030; and NIC, *Global Trends 2025: A Transformed World*, 2008.

[9] US Department of Defense, National Defense Strategy, June 2008, <http://archive.defense.gov/pubs/2008NationalDefenseStrategy.pdf>.

[10] 110th Congress of the United States, 'H.R. 2986: National Defense Authorization Act for Fiscal Year 2008', 28 Jan. 2008, <https://www.congress.gov/bill/110th-congress/house-bill/4986>.

[11] Werrell, C. and Femia, F., 'On the record: climate as a security risk according to U.S. administration officials', 11 Apr. 2017, <https://climateandsecurity.org/2017/04/11/on-the-record-climate-change-as-a-national-security-risk-according-to-u-s-administration-officials-3/>.

[12] White House, 'Findings from Select Federal Reports: the national security implications of a changing climate', May 2015, <https://obamawhitehouse.archives.gov/sites/default/files/docs/National_Security_Implications_of_Changing_Climate_Final_051915.pdf> and National Intelligence Council, 'Implications for US national security of anticipated climate change', 21 Sep. 2016, <https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/Implications_for_US_National_Security_of_Anticipated_Climate_Change.pdf>.

the DOD both in 'the operating environment, roles, and missions' undertaken by the department, as well as DOD facilities and capabilities, and laid out ways in which the DOD would 'assess, adapt to, and mitigate the impacts of climate change'. [13] Although by 2014 there was no congressional mandate to do so, the 2014 QDR repeated this language, stating that the effects of climate change 'are 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' and that 'impacts of climate change may increase the frequency, scale, and complexity of future missions, including defense support to civil authorities, while at the same time undermining the capacity of our domestic installations to support training activities'.[14] Such views have been expanded upon in other DOD documents and reports, and in speeches by high-level DOD officials to Congress. Concurrently, the DOD released the *Climate Change Adaptation Roadmap* in 2012, which reiterated a number of these ideas, including that environmental threats pose a threat to national security; that the DOD would be faced with more demand for humanitarian assistance and disaster relief (HADR) missions; that the DOD needed more information and planning to address the threats; and that the DOD would need to collaborate with other allies and partners to address the national security implications of climate change.[15] The Climate Change Adaptation Roadmap was updated in 2014.[16]

Individual military service components have also made assessments. The Navy has been particularly forward thinking on this topic, perhaps as a result of greater operational exposure to the practical impacts of climate change, such as in the Arctic region, or as responders in humanitarian crises after extreme weather events.[17] In 2009 the Navy set up a Climate Change Task Force, and later published an individual service the *US Navy Climate Change Roadmap*. Navy Task Force Climate was responsible for a 2014 update to the *US Navy Arctic Roadmap 2014–2030*. This time-frame document acknowledges the role of climate change, and anticipates its impacts for the near, mid and far term.[18]

Organizationally and operationally, the US military's missions abroad are structured by geographic combatant commands (GCCs)—each of which has a specific geographic area of responsibility. In 2015, a DOD Report to Congress entitled *National Security Implications of Climate-Related Risks and a Changing Climate* stated that the GCCs generally viewed climate change as a security risk due to its impacts on human security, and stated that all the GCCs were incorporating the risks of climate change into their 'planning, resource requirements, and operational considerations'. The document gave each GCC's independent assessment of the most serious risks climate change posed to operations in their respective areas of responsibility, described how mitigation of such risks are being integrated into planning processes, and identified the resources required for an 'effective response'.[19] At a general level, four areas of climate-related security risks were identified: 'persistently recurring conditions such

[13] US Department of Defense, *Quadrennial Defense Review Report*, Feb. 2010, <https://www.defense.gov/Portals/1/features/defenseReviews/QDR/QDR_as_of_29JAN10_1600.pdf>.

[14] US Department of Defense, Quadrennial Defense Review, 2014, <http://archive.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf>.

[15] US Department of Defense, 'Department of Defense FY 2012 Climate Change Adaptation Roadmap', 2012, <https://web.archive.org/web/20140707155818/http://www.acq.osd.mil/ie/download/green_energy/dod_sustainability/2012/Appendix%20A%20-%20DoD%20Climate%20Change%20Adaption%20Roadmap_20120918.pdf>.

[16] US Department of Defense, '2014 Climate Change Adaptation Roadmap', 2014, <http://ppec.asme.org/wp-content/uploads/2014/10/CCARprint.pdf>.

[17] Diez (note 2), p. 52.

[18] US Navy Task Force Climate Change, 'U.S. Navy Arctic Roadmap 2014–2030', Feb. 2014, <http://www.navy.mil/docs/USN_arctic_roadmap.pdf>.

[19] US Department of Defense, 'National security implications of climate-related risks and a changing climate', July 2015, <http://archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery>.

as flooding, drought, and higher temperatures', 'more frequent and/or severe extreme weather events', 'sea level rise and temperature changes', and 'decreases in Artic ice cover, type, and thickness'. The potential impacts of these risks on GCC operations were listed in greater detail, ranging from 'more frequent or larger-scale DOD involvement in HADR' and 'provision of humanitarian assistance and other aid' to measures to 'protect military installations'.[20] The report assessed, in line with the IPCC, that 'climate change will have the greatest impact on areas and environments already prone to instability, which aligns with DOD's wider assessment of climate change as a threat multiplier'.[21] Already in 2013, Admiral Locklear, who at the time was the Commander of United States Pacific Command, made the assessment that climate change posed the biggest long-term threat to the Asia Pacific region.[22]

Two categories of risk can be disaggregated from the numerous challenges identified by the DOD regarding the impacts of climate change: first, climate change as an exacerbating factor for global conflict instability, 'affect[ing] the type, scope, frequency, tactics, and location of military operations worldwide'; and second, climate change as a threat to the force structure itself, specifically, to military infrastructure such as bases, training facilities and other installations.[23] Concerns about military installations and damage from sea-level rise have featured prominently in DOD discourse. Indeed, the DOD has over 555 000 facilities, many of which are abroad. This 'extensive global real-estate' is vulnerable to the effects of climate change.[24] As the country with the largest international security and foreign policy footprint, the international dimension of climate security has for obvious reasons received considerable focus in the USA in comparison to other P5 countries. Tasks for the DOD in relation to global security include both conflict and non-conflict operations, with HADR being referenced many times throughout documents.

While much of these assessments in the US defence apparatus took place under the auspices of Obama they nevertheless remained independent of the commander-in-chief. Indeed, the defence leadership under Trump—including but not limited to his Secretary of Defense, the Secretary of the Navy, the Vice Chairman of the Joint Chiefs of Staff, as well as other officials—has maintained that climate change poses risks to US national security.

The US Department of State (DOS) has purview over international climate negotiations, cooperation and partnerships, but has had much less impact on the security dimension of the policy debate. Nevertheless, it is worth pointing out that similar thinking regarding security impacts has been paralleled in the DOS. In 2010, it released its *Quadrennial Diplomacy and Development Review* (QDDR), in which energy and environmental issues featured heavily. Referring to the 2010 NSS, the review highlighted climate change as a key new global threat, stating that 'the impact of climate change will likely constrain our own economic well-being and may result in conflicts over resources, migrant and refugee flows, drought and famine, and catastrophic natural disasters'.[25] Building on a *2013 Climate Change Adaptation Plan*, the DOS in its *2014 Climate Change Adaptation Plan* described not only international risks

[20] US Department of Defense (note 19).

[21] US Department of Defense (note 19).

[22] Bender, B., 'Chief of US Pacific Forces calls climate biggest worry', *Boston Globe*, 9 Mar. 2013, <http://www.bostonglobe.com/news/nation/2013/03/09/admiral-samuel-locklear-commander-pacific-forces-warns-that-climate-change-top-threat/BHdPVCLrWEMxRe9IXJZcHL/story.html>.

[23] Leggett, J. A., 'Climate change adaptation by federal agencies: an analysis of plans and issues for Congress', Congressional Research Service, 23 Feb. 2015, <https://fas.org/sgp/crs/misc/R43915.pdf>.

[24] US Government Accountability Office, 'Climate change adaptation: DOD can improve infrastructure and planning and processes to better account for potential impacts', GAO-14-446, May 2014, <http://www.gao.gov/assets/670/663734.pdf>.

[25] US Department of State and USAID, 'Leading through civilian power: the First Quadrennial Diplomacy and Development Review', 2010, <https://www.state.gov/documents/organization/153108.pdf>.

but also departmental vulnerabilities to climate change—most of which focused on infrastructural concerns while also reiterating the global security threats to 'international peace, civil stability, economic growth'.[26]

Speeches and international forum debates

On the international stage, the USA remained relatively neutral in the first climate security debate in the UN Security Council in 2007, emerging under Obama among those countries taking a highly supportive stance in relation to a proactive Security Council. The US appetite for Security Council attention and even intervention on the topic seemingly reached a peak in 2011, when Ambassador Susan Rice stated at the Security Council debate on sea-level rise and food security convened by Germany that:

> Climate change has very real implications for peace and security ... the Security Council needs to start now, today, and in the days to come to act on the understanding that climate change exacerbates the risks and dynamics of conflict ... While we recognize the essential work of the wider United Nations system and other partners in tackling the broader dimensions of climate change around the world, we also strongly believe that the Council has an essential responsibility to address the clear-cut peace and security implications of a changing climate ... by its silence the Council is saying in effect 'tough luck'. That is more than disappointing; it is pathetic, short-sighted and, frankly, a dereliction of duty. The Council needs to be prepared for the full range of crises that may be deepened or widened by the effects of climate change. The question is not whether we will be faced with climate-related threats, but when and how to respond ... It is past time for the Security Council to come into the twenty-first century and to assume our core responsibilities.[27]

Subsequent US ambassadors to the UN maintained their support for the idea that climate change was linked to peace and security, and that the UN Security Council was an appropriate forum for such discussions—but without the strong language of 2011.[28] Indeed, at the June 2015 Arria-formula session on climate change as a threat multiplier, Deputy Special Envoy for Climate Change, Trigg Talley merely stated, 'Given its responsibility for maintaining international peace and security, the Security Council has an important role to play in keeping apprised of the security implications of climate change, especially as the impacts of climate change become more acutely felt. In this regard, we welcome consideration of this topic, and an update of the 2009 report.'[29]

Nothwithstanding these shifts in diplomatic tone, under Secretary of State John Kerry, climate change became a higher priority on the State Department's agenda than his predecessor Secretary Clinton. After he assumed office in 2013, climate change was upgraded to 'a matter of highest diplomatic priority' for the DOS.[30] In an extensive speech on climate change and national security in 2015, Kerry stated that 'the direct impacts on our military's ability to defend our nation are not the end of the peril that climate change could pose to our national security; they're just the beginning'.[31] He referred, however, to the Pentagon as a more forward-thinking organization on

[26] US Department of State, '2014 Climate Change Adaptation Plan', <https://www.state.gov/documents/organization/233779.pdf>.

[27] United Nations, 'Security Council, in statement, says "contextual information" on possible security implications of climate change important when climate impacts drive conflict', 20 July 2011, Meetings coverage, <https://www.un.org/press/en/2011/sc10332.doc.htm>.

[28] United States Mission to the United Nations, 'Remarks at a UN Security Council Open Debate on Peace and Security Challenges Facing Small Island Developing States', 30 July 2015, <https://2009-2017-usun.state.gov/remarks/6784>; United Nations, 'Accelerated regional action, intensified international support critical to resolving Sahel challenges, key officials tell Security Council', Meetings coverage, 26 May 2016, <https://www.un.org/press/en/2016/sc12378.doc.htm>.

[29] 'US Intervention for Security Council Arria-Formula Session', 30 June 2015, <http://www.spainun.org/wp-content/uploads/2015/07/United-States_CC_201506.pdf>.

[30] US Embassy Jakarta, 'Remarks by Secretary Kerry on climate change and national security', 10 Nov. 2015, <https://id.usembassy.gov/remarks-by-secretary-kerry-on-climate-change-and-national-security-2/>.

[31] US Embassy Jakarta (note 30).

the issue, stating that 'just as the Pentagon has begun to view our military planning through a climate lens, ultimately, we have to integrate climate considerations into every aspect of our foreign policy—from development and humanitarian aid to peacebuilding and diplomacy'.[32] He also announced the creation of a new 'task force of senior government officials to determine how best to integrate climate and security analysis into overall foreign policy planning and priorities'.[33] Finally, he stated that 'the strategic plans our embassies use should account for expected climate impacts so that our diplomats can work with host countries to focus on prevention—to proactively address climate-driven stresses on people's livelihoods, health, and security and to do it before it evolves into deep grievances that fuel conflicts'.[34]

It is still unclear what Trump-appointed UN Ambassador Nikki Haley's position is, and to what extent the present administration will reverse previous policies in relation to the Security Council. In June 2017, Haley spoke to the media, stating 'President Trump believes the climate is changing and he believes pollutants are part of the equation', adding 'just because the US got out of a club [the Paris Agreement] does not mean we are not going to care about the environment'.[35] However, given the administration's at best ambivalence towards multilateral institutions, a highly proactive stance by the USA within the UN Security Council on the topic is currently unlikely.

Institutionalization

Beyond broad strategy and risk assessments, climate change-specific mitigation, adaptation and planning efforts have been undertaken and integrated in more tangible ways into parts of the government and national security structure. The *2012 Climate Change Adaptation Roadmap* released by the DOD describes in detail the adaptation efforts the department had made to date, and incorporated the adaptation goals of identifying and integrating climate change considerations into four areas of effort: (*a*) plans and operation; (*b*) training and testing; (*c*) built and natural infrastructure; and (*d*) acquisition and supply chain. Moreover, climate change response has been institutionalized within the DOD through specific responsible officials and coordinating bodies. The Deputy Under Secretary of Defense (Installations and Environment) holds responsibility for the DOD's climate change adaptation efforts, overseeing implementation, and in December 2012 the DOD's Senior Sustainability Council established a Climate Change Adaptation Working Group, comprised of representatives from all services and multiple offices, to coordinate and facilitate this process.

Individual Army, Navy and Air Force service components, and the overarching GCC, had operationally and organizationally incorporated climate thinking and climate adaptation efforts by January 2017, when Trump assumed office. The GCCs, for instance, had already been incorporating climate risks into their resource requirements, assessments and operational considerations.[36] The US Army Corps of Engineers (USACE), the largest public engineering and public works organization, undertakes significant efforts on preparing for the impacts of climate change domestically, while also providing assistance to GCCs and partner nations on this issue.[37] As the

[32] US Embassy Jakarta (note 30).

[33] US Embassy Jakarta (note 30).

[34] US Embassy Jakarta (note 30).

[35] Jordan, M., 'UN Ambassador Nikki Haley: President Trump believes the climate is changing', *Washington Post*, 3 June 2017, <https://www.washingtonpost.com/news/post-politics/wp/2017/06/03/u-n-ambassador-nikki-haley-president-trump-believes-the-climate-is-changing/?utm_term=.4dabe54817cf>.

[36] US Department of State, 'Secretary Kerry addresses old dominion university', 9 Nov. 2015, <https://2009-2017.state.gov/r/pa/prs/ps/2015/11/249332.htm>.

[37] US Army Corps of Engineers, 'Climate Change Adaptation Plan: Update to 2014 Plan', June 2015, <http://www.corpsclimate.us/docs/USACE_Adaptation_Plan_12-NOV-2015_hires.pdf>.

USACE Climate Preparedness and Resilience Policy Statement of June 2014 states, 'It is the policy of USACE to integrate climate change preparedness and resilience planning and actions in all activities . . . to reduce the potential vulnerabilities of that infrastructure and those missions to the effects of climate change and variability'.[38]

In terms of finance, climate change-related funding for the DOD increased about threefold between 2003 and 2010 (from a low baseline).[39] However, the major acceleration of climate security policies happened after Obama assumed office on 20 January 2009. Obama strongly reaffirmed the reality and national security implications of climate change, for example stating at the 2009 Copenhagen Climate Summit that 'unchecked, climate change will pose unacceptable risks to our security, our economies, and our planet'.[40] In accordance with this view, he mandated a number of changes to federal agencies to prevent and anticipate this, including through executive orders EO 13653 'Preparing the United States for the Impacts of Climate Change' (November 2013); EO 13677 'Climate Resilient International Development' (September 2014); EO 13689 'Enhancing Coordination of National Efforts in the Arctic' (January 2015); and EO 13693 'Planning for Federal Sustainability in the Next Decade' (March 2015).[41] These orders had concrete institutional implications for the DOD, the DOS and other federal agencies, and set the framework for much of the institutional progress on climate security in the USA. Obama's policy initiative reached a peak in September 2016 when he released a 'Presidential Memorandum on climate change and national security' which 'establishes a framework and directs Federal departments and agencies to perform certain functions to ensure that climate change-related impacts are fully considered in the development of national security doctrine, policies, and plans'.[42] A number of Obama's efforts have been reversed by Trump, among them EO 13653 'Preparing the United States for the Impacts of Climate Change' and the 'Presidential Memorandum on Climate Change and National Security', both of which were rescinded in March 2017 through EO 13783 'Promoting Energy Independence and Economic Growth.'[43]

Overall, the DOD's integration of climate security thinking reached a peak with the directive it published in January 2016 in response to EO 13653, which tasked the DOD to 'development or continue to develop, implement, and update comprehensive plans that integrate consideration of climate change into agency operations and overall mission objectives'.[44] DOD Directive 4715.21, entitled *Climate Change Adaptation and Resilience*, explicitly sets out how branches of the military as well as DOD civilian departments would incorporate climate change into new strategy and policy, mission operations, planning and logistics. It assigned responsibilities to the Assistant Secretaries of Defense, the Joint Chiefs of Staff, Combatant Commands and individual

[38] US Army Corps of Engineers, 'Climate Change Adaptation Plan', June 2014 <http://www.usace.army.mil/Portals/2/docs/Sustainability/Performance_Plans/2014_USACE_Climate_Change_Adaptation_Plan.pdf>.

[39] The figures are 83 million in 2003, 261 million in 2009, and 226 million in 2010. US Government Accountability Office, 'Climate Change: improvements needed to clarify national priorities and better align them with federal funding decisions', GAO-11-317, May 2011 <http://www.gao.gov/products/GAO-11-317>.

[40] Obama, B., 'Obama's speech to the Copenhagen climate summit', *The Guardian*, 18 Dec. 2009, <https://www.theguardian.com/environment/2009/dec/18/obama-speech-copenhagen-climate-summit>.

[41] Also Executive Order 13514, 'Federal Leadership in Environmental, Energy, and Economic Performance' (Oct. 2009) and Executive Order 13690 'Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input' (Feb. 2015).

[42] White House, Office of the Press Secretary, 'Presidential Memorandum—Climate change and national security', 21 Sep. 2016, <https://obamawhitehouse.archives.gov/the-press-office/2016/09/21/presidential-memorandum-climate-change-and-national-security>.

[43] White House, Office of the Press Secretary, 'Presidential Executive Order on Promoting Energy Independence and Economic Growth', 28 Mar. 2017, <https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economi-1>.

[44] White House, Office of the Press Secretary, 'Executive Order on Preparing the United States for the Impacts of Climate Change', 1 Nov. 2013, <https://obamawhitehouse.archives.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>.

service components. The US military's mission operations were to be directly affected by this directive through climate change-specific guidance for Component Heads, Combatant Commands, Chairman of the Joint Chiefs of Staff and the Assistant Secretary of Homeland Defense and Global Security.[45] In the executive order rescinding Obama's directive it is stated that agencies shall 'identify existing actions related to or arising from [Obama's] Presidential actions ... [and] shall, as soon as practicable, suspend, revise, or rescind ... those rules'.[46]

Since at least 2010 the DOD has been engaged in mitigation and transiting its energy supply away from fossil fuels. As the largest energy consumer in the world, these efforts have had a considerable impact on efforts to decrease emissions—although the framing for this activity is often couched in strategic rather than sustainable development terms. Each of the services has been independently working to reduce their reliance on fossil fuels. Since 2009 the Department of the Navy has implemented firm energy reduction and alternative energy source policies, for example to reduce petroleum use in the commercial fleet by 50 per cent by 2015 (baseline 2009), by 2020 to ensure that at least 50 per cent of shore-based energy requirements will come from alternative sources, and that half of Navy installations will be net-zero.[47] In 2008 the Air Force released an Infrastructure Energy Strategic Plan, which set the goals of reducing energy infrastructure costs, reducing facility energy intensity and increasing renewable energy. The Air Force is now the 'largest purchaser of clean energy in the entire US Government'.[48]

These activities, as well as broader DOD energy efficiency and diversification efforts, are again often framed not in terms of climate mitigation but in terms of strengthening 'strategic flexibility' and 'combat capability'. [49] Indeed the 2010 QDR stated that energy efficiency 'can serve as a force multiplier, because it increases the range and endurance of forces in the field and can reduce the number of combat forces diverted to protect energy supply lines'.[50] That said the practical effect of such framing has been to solidify mitigation efforts beyond the reach of contentious climate politics—including for example, the continuing mitigation and adaptation efforts in relation to the effects of sea-level rise and degradation of US installations and assets.

Within the DOS, an Under Secretary for Economic Growth, Energy and the Environment, announced within the QDDR framework, was established in 2010. However, under Trump's administration the position is currently vacant and its future remains uncertain. In relation to international cooperation, the 2010 QDDR had also described Obama's Global Climate Change Initiative, which was designed to deploy 'a full range of bilateral, multilateral, and private mechanisms and [work] to integrate climate change considerations into relevant US foreign assistance' as being in order to help 'protect our national security'.[51] The DOS's *2014 Climate Change Adaptation Plan* provided an inventory of the policies and programmes in which the department was increasing its climate resilience and 'incorporating climate adaptation and resilience

[45] The House of Representatives amendment attempted to block the funding for the directive's implementation, but this was edited by Senate language, which largely nullified it. Resetar, S. A. and Berg, N., 'An initial look at DOD's activities toward climate change resiliency: an annotated bibliography', RAND Working Paper, Feb. 2016, <https://www.rand.org/pubs/working_papers/WR1140.html>.

[46] White House, Office of the Press Secretary (note 43).

[47] US Department of the Navy, 'Memorandum for Director. Material readiness and logistics. Subject: SECNAC Shore Energy Policy', 1 Dec. 2011, <http://www.secnav.navy.mil/eie/ASN%20EIE%20Policy/ShoreEnergyPolicy.pdf>.

[48] Kougentakis, A. et al., 'Clean energy for the wild blue yonder: expanding renewable energy and efficiency in the Air Force', Center for American Progress, Nov. 2009, <https://cdn.americanprogress.org/wp-content/uploads/issues/2009/11/pdf/solar_air_force.pdf>.

[49] US Department of the Navy, Energy, Environment and Climate Change, 'Energy', [n.d.], <http://greenfleet.dodlive.mil/energy/>.

[50] US Department of Defense, *Quadrennial Defense Review Report*, Feb. 2010 <https://www.defense.gov/Portals/1/features/defenseReviews/QDR/QDR_as_of_29JAN10_1600.pdf>.

[51] US Department of State (note 26).

into its broader strategic planning'.[52] Climate change was also mentioned as one of six development areas for USAID targeted action. In the 2015 QDDR 'mitigating and adapting to climate change' was in fact one of four strategic global priorities for the DOS and the United States Agency for International Development (USAID), the report stating again that the DOS would 'integrate climate change into all of our diplomacy and development efforts'.[53] It is likely that many of these institutional changes have been reversed under the auspices of Secretary of State, Rex Tillerson. Furthermore, Trump has expressed overt disinterest in utilizing the state's diplomatic and development apparatus, and overall, the DOS has lost policy influence under the Trump administration.[54]As of late 2017, the status of these activities is unclear.

Prospects

The analysis above shows a country that had, prior to the Trump administration, moved well beyond mere discourse and statements that climate change should to be taken seriously as a national security threat. It has produced assessments of possible impacts, actively started preparing for such contingencies, incorporated climate into longer-term strategic plans and operations, and institutionalized adaptation and mitigation into the defence and foreign policy system. However, US federal climate change progress has been significantly halted under Trump, whose official stance towards the issue (as well as on questions of the environment in general) is evidenced in his appointment of a climate sceptic to head of the Environmental Protection Agency, his rescinding of most of the important climate-related executive orders signed by his predecessor, his announcement of the US withdrawal from the Paris Agreement, and his support for US fossil fuel industries as evidenced by EO 13783 'Promoting Energy Independence and Economic Growth'.[55] Such a policy stance may have been foreshadowed by Trump's famous 2012 statement that the concept of global warming was 'created by and for the Chinese in order to make US manufacturing non-competitive'.[56]
However, not all the progress made on the climate security front has been reversed. A number of climate-related programmes, protocols and policies within the military agencies existed prior to Obama's mandates, and therefore remain in place. One concrete example is in the USACE, whose numerous 'activities to ensure reliable performance of agency missions in changing conditions predated [Obama's] EO 13653 and continue after it was rescinded'.[57] The USACE in fact continues to work 'with US Combatant Commands (COCOMs) and select countries to assess, interpret, plan for, and mitigate impact from climate change'.[58] Currently in many federal agencies, any programmes or policies that include the term 'climate change' are at risk of being slashed.[59] However, certain military programmes or policies designed to prepare for the impacts of climate change in fact do not mention the word 'climate' explicitly, presciently from a political perspective referring only to sea-level rise or utilizing euphemisms for programmes such as 'system prediction capability'.[60] Installations

[52] US Department of State (note 26).

[53] US Department of State, 'Enduring leadership in a dynamic world: Quadrennial Diplomacy and Development Review', 2015, <https://www.state.gov/documents/organization/267396.pdf>.

[54] Gramer, R. et al., 'How the Trump administration broke the State Department', 31 July 2017, <http://foreignpolicy.com/2017/07/31/how-the-trump-administration-broke-the-state-department/>.

[55] White House, Office of the Press Secretary (note 43).

[56] President Donald J. Trump, Twitter, 6 Nov. 2012, <https://twitter.com/realdonaldtrump/status/265895292191248385?lang=en>.

[57] US Army Corps of Engineers, 'Responses to climate change: policies', updated 14 June 2017 <http://corpsclimate.us/adaptationpolicy.cfm>.

[58] US Army Corps of Engineers (note 37).

[59] US Army Corps of Engineers (note 37).

[60] Parker, L., 'Who's still fighting climate change? The US Military', *National Geographic*, 7 Feb. 2017, <http://news.nationalgeographic.com/2017/02/pentagon-fights-climate-change-sea-level-rise-defense-department-military/>;

remain a major concern for all service components and for the military at large, and infrastructural upgrades addressing current or preparing for future sea-level rises are proceeding in the 2018 fiscal year budget for the DOD.

In a June 2017 testimony to the Senate, military officers from the Navy and Air Force in charge of service installations testified that they are still taking into account the impacts of sea-level rise and addressing the threats to US military installations posed by climate change.[61] The subsequent 'Military Construction, Veterans Affairs, and Related Agencies Appropriation Bill, 2018' contains numerous references to climate change and directs the DOD Comptroller General to 'undertake a study of DOD's progress in developing a means to account for potentially damaging weather in project design', further elaborating 'weather effects associated with climate change'.[62] Moreover, in July 2017 a new Assistant Secretary of Defense for Energy, Installations, and Environment was appointed, who at his confirmation hearing stated 'the climate plays a pivotal role in DOD's ability to execute our missions' and went on to affirm that under his tenure he would 'ensure our facilities and installation plans appropriately consider the impact of a changing climate'.[63]

More tellingly however, is the willingness of the top defence leadership to continue to refer to the negative security implications of climate change. This includes Trump's Secretary of Defense, James Mattis, who at his confirmation hearing on 12 January 2017 stated in accordance with previous DOD and intelligence assessments that climate change 'can be a driver of instability' and it 'is a challenge that requires a broader, whole-of-government response . . . I will ensure that the Department of Defense plays its appropriate whole within such a response by addressing national security aspects'.[64] He also stated that humanitarian assistance and disaster relief is a legitimate military mission for the DOD. Outside of the Office of the Secretary of Defense, the new Secretary of the Navy under Trump likewise confirmed that the Navy is 'totally aware of rising water issues, storm issues, etc. in relation to climate change, and the impacts that would have on military infrastructure'.[65] The new Vice Chairman of the Joint Chiefs of Staff, at his confirmation hearing, also gave a highly elaborate view of how climate change and environmental problems could increase global and regional instability in parts of the world in which the USA operates.

There is now greater bipartisan congressional recognition of climate change's impacts on security than ever before. In November 2017, Congress passed the 2018 Fiscal Year National Defense Authorization Act, with both Republican-controlled chambers voting for language in the bill stating:

> It is the sense of Congress that—climate change is a direct threat to the national security of the United States and is impacting stability in areas of the world both where the United States Armed Forces are operating today, and where strategic implications for future conflict exist; . . . the Department of Defense must ensure that it is prepared to . . . address the effects of a changing climate on threat assessments, resources, and readiness; military installations must be able to effectively prepare to

Vinik, D., 'Why the GOP is trying to stop the Pentagon's climate plan', *Politico*, 23 June 2016, <http://www.politico.com/agenda/story/2016/06/republicans-trying-to-stop-pentagon-climate-plan-000149>.

[61] US Senate Committee on Appropriations, 'Subcommittee Hearing: Review of the FY2018 Budget Request for Military Construction & Family Housing', 6 June 2017, <https://www.appropriations.senate.gov/hearings/review-of-the-fy2018-budget-request-for-military-construction-and-family-housing>.

[62] US Senate, 115th Congress, 1st Session, 'Military Construction, Veterans Affairs, and Related Agencies Appropriation Bill, 2018', Report 115–130, 13 July 2017, <https://www.congress.gov/115/crpt/srpt130/CRPT-115srpt130.pdf>.

[63] US Senate Committee on Armed Services, 'Advance policy questions for Lucian Niemeyer, nominee for Assistant Secretary of Defense for Energy, Installations, and Environment', 18 July 2017, <https://www.armed-services.senate.gov/imo/media/doc/Niemeyer_APQs_07-18-17.pdf>.

[64] Propublica, 'Secretary of James Mattis' views on climate, energy, and more', <https://www.documentcloud.org/documents/3518910-MattisResponsestoQFRsMASTERCOPY.html>.

[65] Werrell, C. and Femia, F., 'Vice Chairman of the Joint Chiefs on climate instability and political instability', Center for Climate and Security, 25 July 2017, <https://climateandsecurity.org/2017/07/25/vice-chairman-of-the-joint-chiefs-on-climate-instability-and-political-instability/>.

mitigate climate damage in their master planning and infrastructure planning and design.[66]

The act also requires the DOD to provide a report to Congress including on 'vulnerabilities to military installations and combatant commander requirements', with the latter including 'the increase in the frequency of humanitarian and disaster relief missions and the theatre campaign plans, contingency plans, and global posture of the combatant commanders'.

Again, recognition by Trump-appointed officials, and across the congressional partisan aisle, suggests that climate change scepticism by the President and certain members of his administration is not shared throughout the political establishment as a whole. Indeed the continuity and even forward movement on the specifically national security dimensions of climate change across Republican and Democratic administrations suggests that there is a certain amount of momentum and already institutionalized climate security thinking, analysis and practice within the US political and national security apparatus. This is likely to last.

Finally, several recent natural disasters—for example hurricanes Irma, Harvey and Maria—impacting the territory of the USA have brought to the fore the key role of the DOD in HADR. Various components of the DOD, including GCCs in coordinating roles, the USACE, the Defense Logistics Agency and others, have been highly proactive in relief efforts, with tens of thousands of soldiers and DOD civilians deploying to assist.[67] While this expanded DOD responsibility has not been explicitly linked by departmental officials to climate change, a Pentagon spokesperson in September 2017 stated that 'the department evaluates all potential threats that impact mission readiness, personnel health and installation resilience, then uses that information to assess impacts and identify responses'. While climate change is not part of the mission of the DOD, he stated that it is nevertheless 'one of a variety of threats and risks'.[68]

[66] US Senate, 115th Congress, 1st Session, 'H.R. 2810: National Defense Authorization Act for Year 2018', 18 July 2017, <https://www.govtrack.us/congress/bills/115/hr2810/text>.

[67] US Department of Defense, 'DOD hurricane relief', <https://www.defense.gov/News/Special-Reports/dod-hurricane-relief/>.

[68] Copp, T., 'Pentagon is still preparing for global warming even though Trump said to stop', *Military Times*, 12 Sep. 2017.

5. The United Kingdom

Of the P5, the United Kingdom has been one of the most pronounced leaders internationally when it comes to advocating attention to potential security risks of climate change. British attention to the issue of climate change was a prominent feature early on with Prime Minister Margaret Thatcher giving a famous speech about the need for climate change action at the UN General Assembly as early as 1989.[1] Various governments since then have widely accepted and recognized the need to proactively address climate change, a perspective which is currently shared across all the major British political parties. However, the security dimension did not emerge at the policy forefront until the 2000s, when climate security also became a substantial priority within British foreign policy, through the Foreign and Commonwealth Office (FCO). The UK has since acted as a proponent of a more robust global climate security agenda across various international forums. The Ministry of Defence (MOD) has also mainstreamed climate change into its planning and operations.

Security and defence discourse

The British Strategic Defence Review of 1998, makes no mention of either climate or the environment. But in the 2000s under a Labour government, climate change was made a top foreign policy priority, a cause taken up by the UK in multilateral forums such as the G8 and the EU. The British Climate Change Programme was launched in 2000, and throughout the following decade the security aspects of climate change become increasingly prominent, championed by a series of high-profile government officials. In 2003 a former head of the British meteorological office published an opinion piece asserting that global warming 'is now a weapon of mass destruction' that kills more people than terrorism.[2] This language was repeated in 2004 by the Chief Scientific Advisor of the UK, David King, who stated that 'climate change is the most severe problem that we are facing today—more serious even than the threat of terrorism'.[3] In February 2006 British Defence Secretary, John Reid warned that climate change would make violent political conflict more likely over the next 20 to 30 years, and that 'military planners have already started considering the potential impact . . . for Britain's armed forces'.[4]

This discourse can be viewed alongside a policy shift by the British Government. In September 2006 while warning of the 'ever-growing threat to international security' that climate change poses at the UN General Assembly, Foreign Secretary, Margaret Beckett—who had previously served as Environment Minister—also noted that then Prime Minister Tony Blair had 'specifically charged [her] with putting climate security at the heart of our foreign policy'.[5] This was indeed the case and related to her appointment and those of her successors in the FCO, including Conservative Party appointees under the 2010–16 coalition government. The international efforts of the UK in this regard reached an apex in 2007, during the British presidency of the

[1] Thatcher, M., 'Speech to the United Nations General Assembly (Global Environment)', 8 Nov. 1989, <http://www.margaretthatcher.org/document/107817>.

[2] Houghton, J., 'Global warming is now a weapon of mass destruction', *The Guardian*, 28 July 2003, <https://www.theguardian.com/politics/2003/jul/28/environment.greenpolitics>.

[3] King, D. A., 'Climate change science: adapt, mitigate, or ignore?', *Science*, 9 Jan. 2004, <http://science.sciencemag.org/content/303/5655/176.full>.

[4] Russell, B. and Morris, N., 'Armed forces are put on standby to tackle threat of wars over water', *The Independent*, 28 Feb. 2006, <http://www.independent.co.uk/environment/armed-forces-are-put-on-standby-to-tackle-threat-of-wars-over-water-6108139.html>.

[5] UK Mission to the United Nations, New York, 'Statement by the Secretary of State for Foreign and Commonwealth Affairs of the UK, The RT Hon Margaret Beckett MP before the 61st Session of the UN General Assembly on 22 September 2006', <https://www.un.org/webcast/ga/61/pdfs/unitedkingdom-e.pdf>.

Security Council, when Foreign Secretary, Beckett initiated and chaired the first ever Security Council debate on the topic, on 17 April. During this event the UK argued that it was clear that climate change impacts 'went beyond environmental to the very heart of the security agenda'.[6]

Following on from the 2007 debate, in the first British National Security Strategy published in March 2008, climate change featured prominently, as 'potentially the greatest challenge to global stability and security, and therefore to national security'.[7] The 2009 update to the NSS continued in the same vein, stating:

> Climate change will increasingly be a wide-ranging driver of global insecurity. It acts as a threat-multiplier, exacerbating weakness and tensions around the world. It can be expected to worsen poverty, have a significant impact on global migration patterns, and risk tipping fragile states into instability, conflict and state failure. From a security perspective, it is important to act now to reduce the scale of climate change by mitigation, such as emissions reduction, and by being able to adapt to climate change that is now already unavoidable.[8]

2008 represented an important year for climate change policy. In November, the Climate Change Act was passed—a still-standing piece of legislation which binds the country to greenhouse gas reduction targets by 2050, and which set up an independent Committee on Climate Change. The Act also mandated a five-yearly assessment of climate risks, as well as a five-yearly adaptation plan. The first Climate Change Risk Assessment was published in 2012 (with an update in 2017), and the first National Adaptation Programme in 2013.[9] Notably, the Climate Change Risk Assessment does not include any analysis of risks to national security. But through the Climate Change Act, the UK became the first country in the world to adopt such legally binding legislation, including long-term carbon reduction targets, and also introduced the world's first carbon budgets.

The Government Office for Science's Foresight project reports on 'International dimensions of climate change' (2011), 'Migration and global environmental change' (2011) and 'Reducing risk of future disasters' (2012) also contributed to the broader policy assessment arena. In the longer term, the Global Strategic Trends Programme of the MOD's Development, Concepts and Doctrine Centre has published a series of thirty-year outlooks for long-term defence planning. In its most recent edition, *Global Strategic Trends—out to 2045*, published in 2014, climate change is mainstreamed throughout, in reference not only to the environmental section but also to demographics, migration, urbanization, resource demand, humanitarian assistance and disaster relief. Throughout the document there are more than 100 references and uses of the term climate change.[10] Indeed, as Reid predicted, the theme of climate security continued through the NSS of 2010, the Strategic Defence and Security Review of 2010 and updates to both in 2015. In the updates, climate change is referred to as a driver of instability and a contributor to resource scarcity, but also as a motive for international

[6] United Nations, 'Security Council holds first ever debate on impact of climate change on peace, security, hearing over 50 speakers', 17 Apr. 2007, <http://www.un.org/press/en/2007/sc9000.doc.htm>.

[7] British Cabinet Office, 'The National Security Strategy of the United Kingdom: Security in an Interdependent World', Mar. 2008, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228539/7291.pdf>.

[8] British Cabinet Office, 'The National Security Strategy of the United Kingdom: Update 2009, Security for the Next Generation', June 2009, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229001/7590.pdf>.

[9] For the 2017 risk assessment see HM Government, 'UK Climate Change Risk Assessment 2017', Jan. 2017, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf>.

[10] British Ministry of Defence, Strategic Trends Programme, *Global Strategic Trends—out to 2045*, 5th edn (MOD, Ministry of Defence: London, 2014), <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/348164/20140821_DCDC_GST_5_Web_Secured.pdf>.

cooperation, an area in which the UK can take global leadership and even as an economic opportunity.

In international fora the British position on climate security has broadly remained consistent. The UK, as mentioned, organized the first debate in the UN Security Council in 2007, and has continued to advocate for a proactive Council in this regard. In subsequent UN Security Council debates and the Arria-formula meeting relating to climate change, British representatives have maintained both the urgency and the relevancy of the issue within the peace and security agenda. In February 2013 the UK co-hosted together with Pakistan an Arria-formula session on the security dimensions of climate change. In 2015 during a Security Council debate on small island developing states, Ambassador Rycroft stated that 'left unaddressed, climate change could constitute one of the gravest threats to international peace and security for generations' and pushed for all governments 'to make climate fragility a key consideration in our foreign policy planning'.[11] At the June 2017 Security Council debate on transboundary waters, he continued to identify linkages between climate change, insecurity and potential conflict.[12]

However, despite the consistent rhetoric and while climate security indeed remains of interest to the UK both at home and abroad, in recent years, the British Government's prioritization of climate security has seemingly tapered down relative to a range of other foreign and domestic policy issues. This includes a reduction in staff at the FCO involved climate change related activities.[13]

Institutionalization

The UK is one of the few governments—and the only one of the P5—to have had a ministry dedicated to the issue of climate change, although the Department of Energy and Climate Change which was established in 2008. It was subsumed into the Department for Business, Energy and Industrial Strategy in 2016. In 2009, important decisions to institutionalize climate security policies in the UK were made.[14] A key moment was the FCO's creation of a Climate Security team to raise awareness on climate change security risks. Furthermore, in coordination with the MOD and the Department of Energy and Climate Change, a new UK envoy for Climate Change and Energy Security was established to engage 'the defence and security community on climate security to help create the political conditions necessary for a global deal on climate change', a position held by Rear Admiral Neil Morisetti.[15] Writing in December, former Home Secretary and Secretary of State for Defence, John Reid stated 'my own view is that

[11] UK Mission to the United Nations, New York, 'Statement by Ambassador Matthew Rycroft of the UK Mission to the UN at the Security Council Open Debate on Peace and Security Challenges Facing Small Island Developing States', 30 July 2015, <https://www.gov.uk/government/speeches/we-have-seen-countless-instances-of-climate-change-multiplying-interlinked-threats-in-small-island-developing-states>.

[12] UK Mission to the United Nations, New York, 'Statement by Ambassador Matthew Rycroft, UK Permanent Representative to the United Nations, on transboundary waters', 6 June 2017, <https://www.gov.uk/government/speeches/if-we-arent-taking-steps-to-address-climate-change-we-are-fighting-with-one-hand-tied-behind-our-back>.

[13] Vaughan, A., 'UK slashes number of Foreign Office climate change staff', *The Guardian*, 7 Dec. 2016, <https://www.theguardian.com/environment/2016/dec/07/uk-slashes-number-of-foreign-office-climate-change-staff>.

[14] Boas, I., *Climate Migration and Security: Securitisation as a Strategy in Climate Change Politics* (Routledge: London, 2015).

[15] Boas (note 14), p. 92.

environmental security will be at the heart of everything that UK Governments will do for years to come'.[16]

The issue of climate change has not been the subject of organizational stove-piping; rather, it has been incorporated quite substantially into both FCO and MOD operations and even mandates. The primary responsibility for considering climate change security risks lies mostly with the FCO, whose Environmental Policy Department was in 2004 renamed the Climate Change and Energy Group. Under a 2010 restructuring of the British national security apparatus which resulted in the creation of a British National Security Council (NSC), the FCO was tasked with coordinating work on the security impacts of climate change and resource competition.[17] The newly formed NSC held its first meeting on the topic that year. The FCO has largely taken charge of spearheading the foreign policy-related aspects of the task, while working together with the MOD to 'pioneer the effort to mobilise [international] security elites on climate change.'[18] Meanwhile, the MOD has also been actively incorporating climate change into its analysis, planning and operations.

The MOD's stated climate change vision is the 'effective delivery of Defence capability that is robust to climate change and does not substantially contribute to its causes'.[19] In its 2010 Climate Change Strategy, updated in 2012, it committed to reducing its carbon footprint and adaption to 'ensure the MOD has the capacity to operate in a changing climate, such that Defence capability is not compromised and any potential benefits from the future climate are realized'.[20] It outlines a number of targets and indicators for incorporating climate impacts into policy planning, capability planning and adapting the defence estate. Progress on each of these points is detailed in annual Sustainable MOD reports. This climate strategy constitutes a substrategy of the MOD's 'Sustainable development strategy and delivery plan 2011 to 2030', which sets out a key objective 'to have ensured that environmental, social and economic threats, impacts and opportunities are fully taken into account in Defence decisions and in the management of Defence activities'.[21] The overall sustainability strategy was updated again in 2015 (to 2036), emphasizing climate resilience and setting out a strategy to 'adapt and prepare our activities, infrastructure and equipment assets, to become resilient to the impacts of current and future climates'.[22]

The mitigation imperative is not specific to the MOD. The ministry's efforts to reduce its carbon emissions is part of a broader government policy that can be seen embodied in the 2011–15 Greening Government Commitments 'to embed sustainability in all it does', and also in renewed commitments for 2016 to 2020.[23] In regard to adaptation, one strong component of the MOD's efforts—as can be seen in the USA—has been preparation for the impacts of climate change on defence infrastructure and holdings (i.e. the defence estate). The Defence Infrastructure Organisation, for instance, has

[16] Reid, J., 'John on climate change and global security', Reuters Blog, 5 Dec. 2009, <http://blogs.reuters.com/great-debate-uk/2009/12/05/john-reid-on-climate-change-and-global-security/>.

[17] British Government, 'Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review', Oct. 2010, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62482/strategic-defence-security-review.pdf>.

[18] British Parliament, 'The Role of the FCO in UK Government', Session 2010–11, <https://publications.parliament.uk/pa/cm201011/cmselect/cmfaff/writev/fcogov/m12.htm>.

[19] British Ministry of Defence, 'MOD Climate Change Delivery Plan', 2012 <http://webarchive.nationalarchives.gov.uk/20121018221827/http://www.mod.uk/NR/rdonlyres/AFAFEF28-1CFB-44F2-BCCC-15ABB00766D9/0/MODClimateChangeDeliveryPlan2010FINAL.pdf>.

[20] British Ministry of Defence, 'Sustainable Development Strategy and Delivery Plan 2011 to 2030', 1 May 2011, <https://www.gov.uk/government/publications/sustainable-development-strategy>.

[21] British Ministry of Defence (note 20).

[22] British Ministry of Defence, 'Sustainable MOD Strategy: Act and Evolve 2015–2025', 2015, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/498482/Sustainable_MOD_Strategy_2015-2025.pdf>.

[23] British Department for Environment, Food and Rural Affairs, 'Greening government commitments: 2011 to 2012 annual report', 14 Dec. 2012, <https://www.gov.uk/government/publications/greening-government-commitments>.

developed a Climate Impact Risks Assessment Methodology (CIRAM) which 'identifies the risk to defence outputs from current and future climate or extreme weather events, and identifies the actions required to maintain and optimise operational capability'.[24] However, the 'Strategy for defence infrastructure 2015–2030' makes just a single reference to climate change, in speaking of a sustainable estate that is 'adapted to future climates'.[25] In its efforts to build climate resilience in 2015–16, according to the most recent MOD sustainable development report, the MOD is to continue to assess MOD establishments and facilities using CIRAM, continue Resilience Research Programme efforts to provide technical advice, and undertake more planning related to defence procurement and equipment.[26]

Outside of the MOD, inter-agency and inter-ministerial cooperation on climate security has been relatively robust. The UK Met Office, for instance, has a climate security team that provides British Government offices, including the MOD, with related assessments and analyses.[27] In 2007 it announced a five-year Integrated Climate Programme, co-funded by the Department for Environment, Food and Rural Affairs (Defra) and the MOD to 'integrate climate change information into planning and decision making processes in government'. Specifically the MOD commissioned the Met Office to 'assess which sensitive regions of the world are likely to reach crisis point as a result of increased environmental stresses', including, for instance, 'specialized forecasts to support MOD operations in Iraq, Afghanistan, Yugoslavia and the Falkland Islands' and prototyping 'monthly forecasts of the Environmental Stress Index, designed for direct use by MOD personnel'.[28] However, the funding for these assessments was slashed and reallocated to other MOD priorities in 2012.[29]

Moreover, the MOD provides input and support to other government departmental efforts, including the Government Office for Science's Foresight projects and Defra's UK Climate Change Risk Assessment reports. The 'pan-government governance structure necessary to respond to international impacts of climate change' also features in the MOD's policy planning efforts.[30] As the 2010 Strategic Defence and Security Review pointed out, there is a need for an integrated approach, one that utilizes both military and civilian assets, and links development efforts to conflict prevention.

In this regard beyond the significant advocacy efforts of the FCO, the Department for International Development's co-managed International Climate Fund (ICF) may also be seen as being directly part of the climate security complex. In a 2011 report outlining ICF priorities, the Secretaries of State for International Development, Energy and Climate Change, and Environment, Food and Rural Affairs wrote, 'we cannot have food security, water security, energy security—or any form of national security—without climate security',[31] and Ambassador Martin Shearman referred to

[24] British Ministry of Defence, 'Guidance: Defence Infrastructure Organisation estate and sustainable development', 12 Dec. 2012, <https://www.gov.uk/guidance/defence-infrastructure-organisation-estate-and-sustainable-development>.

[25] British Ministry of Defence, 'Strategy for Defence Infrastructure 2015–2030', <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/568181/20161111-Strategy_for_Defence_Infrastructure_2015-2030.pdf>.

[26] British Ministry of Defence, 'Sustainable MOD Annual Report 2015/2016', 2016, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/575553/Sustainable_MOD_2015-16_Edited_DEC16.pdf>.

[27] UK Met Office, 'Climate security', 6 Apr. 2017, <https://www.metoffice.gov.uk/research/applied/climate-security>.

[28] UK Met Office, 'Climate research at the Met Office Hadley Centre', 2007, <https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/b/1/informing.pdf>.

[29] Hefferman, O., 'UK Met Office hit by cuts to climate project', *Nature News*, 1 July 2009, <http://www.nature.com/news/2009/090701/full/460021b.html>.

[30] British Ministry of Defence, 'MOD Climate Change Delivery Plan' (note 19).

[31] As quoted in Harris, K., 'Climate change in UK security policy: implications for development assistance?', Overseas Development Institute, Working Paper 342, Jan. 2012, <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7554.pdf>; UK Department for International Development, Department of Energy and Climate Change, Department for the Environment, Food and Rural Affairs, 'UK International Climate Fund',

these policy linkages publicly in 2015, stating at an UN Security Council Arria-formula debate that 'the security risks of climate change are already present . . . that is why the UK has committed £3.9 billion to climate finance between 2011 and 2016—including £720 million (1.1 billion USD) for the Green Climate Fund'.[32]

Post-Brexit

Unlike in the USA, climate change has not been as divisive an issue for the major political parties in the UK, and the topic did not feature prominently in either the country's 2016 decision to leave the European Union (commonly referred to as 'Brexit') or in the general election of 2017. But while Prime Minister Theresa May stated at the G20 Summit in July 2017 that the British commitment to climate change 'is as strong as ever',[33] a few policy uncertainties remain. After her appointment the Department of Energy and Climate Change was merged with the Department for Business, Energy and Industrial Strategy—although May appointed 'committed green conservatives' to lead this restructuring.[34] Certain elements of British environmental policy are currently in question due to entanglements with EU legislation, but the 2008 Climate Change Act remains unaffected. While no current change in stance has been detected, it remains to be seen whether the UK will endure as one of the pre-eminent voices on the international stage in relation to climate security.

<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67453/uk-int-clim-fund-tack-clim-chge-red-pov.pdf>.

[32] Permanent Mission of Spain to the UN, Communication Office, 'Martin Shearman intervention at UN Security Council Arria-format debate on climate change', 30 June 2015, <http://www.spainun.org/wp-content/uploads/2015/07/United-Kingdom_CC_201506.pdf>.

[33] British Prime Minister's Office, 'G20 Summit July 2017: Prime Minister's press statement', 8 July 2017, <https://www.gov.uk/government/speeches/g20-summit-july-2017-prime-ministers-press-statement>.

[34] Hall, S., 'The Right in America may deny climate change but conservatives in the UK are taking action', *The Independent*, 18 Jan. 2017, <http://www.independent.co.uk/voices/climate-change-deniers-donald-trump-conservatives-uk-green-energy-a7532961.html>.

6. France

The development of official climate-related security discourse in France has been slower than in the USA or the UK, with fittingly limited institutionalization of climate-specific security policies within its military. Since the climate negotiation held in Paris in 2015, there has been some indications that climate security has become somewhat more prominent within the security apparatus—which could dovetail with President Macron's more robust climate diplomacy agenda in general. However, this remains to be seen.

Security and defence discourse

France began to establish a strategy towards climate change in the 2000s, with a national mitigation strategy published in 2004 and an adaptation strategy in 2006, followed by an adaptation plan in 2011–15. Climate change was introduced more explicitly into its military outlook via the 2008 White Paper on Defence and National Security. This document was France's first official statement on national security since 1994, and was produced by a commission made up of a wide cross-section of experts, including members from outside the security realm, as part of a restructuring of the French security apparatus. Because of this the range of issues covered in the paper were relatively comprehensive. As well as references to climate change's impact on resources in the Middle East and Africa, links were made to violent conflict and social disruption, and it was stated that the, "long-term effects of climate warming if they are not prevented soon enough' could 'directly fuel major crises'". New security approaches included a preventative agenda and a call for the 'creation of a multilateral body for prevention and concerted action' in the area of climate change. The need to take greater account of climate change risks and impacts was also incorporated into recommendations on domestic and civil security.[1] In the same year (2008) the French Ministry of Defence (MOD) published its first sustainable development report, which by 2012 had been upgraded to a strategy. The '2012 Strategy of sustainable development for defence (S3D)' was published as 'an essential step in the process of adapting our military capacities to tomorrow's transformed world'. It recognized that 'some environment-related phenomena, such as climate change or the unavailability of nature resources, especially energetic ones, will have direct and indirect consequences on international security (for instance, disorganization caused by natural disasters or disputes regarding the access to natural resources)'.[2]

Compared to the USA and the UK, uptake by the French MOD on climate issues has been somewhat slow. This context of France's overall reduced reliance on and investment in the military since the 2000s.[3] The 2007 annual foresight seminar of the MOD's Directorate for Strategic Affairs was titled '2040, strategic stakes of an evolving climate'. However, it was not until June 2011 that the first defence-linked report wholly dedicated to the issue of climate change was published. Produced by the MOD's Institute for Strategic Research (IRSEM), the unofficial report, 'Strategic thinking on climate change and the implications for defence', recognized that 'climate

[1] French Ministry of Defence, *The French White Paper on Defence and National Security* (Odile Jacob: New York, 2008), <http://www.mocr.army.cz/images/Bilakniha/ZSD/French%20White%20Paper%20on%20Defence%20and%20National%20Security%202008.pdf>.

[2] As quoted in Brassel-Day, A. et al., 'Sustainable development and adaptation for climate change: a role for defence? The French perspectives', ed. I. Linkov, *Sustainable Cities and Military Installations*, NATO Science for Peace and Security Series C: Environmental Security (Springer: Dordrecht, 2014).

[3] From 2001 to 2016 France reduced its military budget by around 7%. French National Assembly, 'Rapport relatif à la programmation militaire pour les années 2014 à 2019' [Report concerning military planning for the years 2014 to 2019], report no. 1551, Nov. 2013, <http://www.assemblee-nationale.fr/14/rapports/r1551-t1.asp>.

change could emphasize natural and sanitary risks, modify resources allocations of water, and affect food security' and recommended that it be taken into account as a factor in new French military missions, and into the next white papers.[4] France's 2013 defence white paper, 'French white paper on defence and national security 2013' was somewhat more ambivalent concerning the impacts of climate change.[5] Indeed it states that the 'precise regional consequences of global warming over the next few decades are still very uncertain', although it does point to the already existing strategic consequences of melting Arctic sea ice.[6] This paper did make mention of the 'climatic risks' that French citizens living in New Caledonia, French Polynesia and Wallis and Futuna face.

The 2017 defence white paper update published under President Emmanuel Macron, 'Strategic review of defense and national security', was much more clear-cut about the security impacts of climate change. The document dedicated a one-page section to the threat, which was described as a 'weakening phenomenon ... that worsens unstable political and social issues.'[7] Overseas territories were noted because of their vulnerabilities and weak resilience, but the section also mentioned the Sahel area among a number of other regions, as being particularly sensitive to climate change impacts. The Sahel has been an area of special interest for France, due to its military invention there since 2013. Climate change is also underlined as being a threat to critical resources, which may increase local and international competition.[8]

The French Parliament has been a proponent of climate security. In December 2013 parliamentarians added an amendment to the military programme for 2014–2019, which included climate change on the list of risks likely to affect French security.[9] Moreover, as a response to the 'near complete neglect of environment issues' in the 2013 Defence White Paper, Leila Aïchi, Vice President of the Foreign Affairs and Defence Commission of the French Senate, directed an initiative which resulted in the publication in 2014 of a policy paper on environmental security. The *Green Book on Defence* enhanced understanding of and strategies towards environmental issues, including framing climate changes as a global security risk. The non-binding report stated: 'it is essential that environmental issues are taken more fully into account by the defence system and the whole military apparatus'.[10] In 2015 the same Senate committee also published a report on the 'geostrategic consequences of climate change'. Concerns here were mostly with sea-level rise and the Arctic, and the report advocated adaptation by the armed forces.[11]

In recent years the MOD has organized several international conferences, including 'Climate and Defense: What is at Stake?' just prior to the Paris negotiations—the first such international ministerial conference to be held on the topic.[12] In June 2016

[4] French Ministry of Defence, Institute for Strategic Research, '*Réflexion stratégique sur le changement climatique et les implications pour la défense*' [Strategic Thinking on Climate Change and Implications for Defense] (IRSEM: Paris, 2011), p. 4.

[5] French Ministry of Defence, 'French White Paper: Defence and National Security', 2013, <http://www.livreblanc-defenseetsecurite.gouv.fr/pdf/the_white_paper_defence_2013.pdf >.

[6] French Ministry of Defence (note 5).

[7] French Ministry of Defence, 'Revue Stratégique de defense et de sécurité nationale' [Strategic review of defence and national security], Oct. 2017, <http://www.defense.gouv.fr/dgris/politique-de-defense/revue-strategique/revue-strategique>.

[8] French Ministry of Defence (note 7).

[9] French State Council, Security Loi n° 2013-1168 du 18 décembre 2013 relative à la programmation militaire pour les années 2014 à 2019 et portant diverses dispositions concernant la défense et la sécurité nationale [Law no. 2013-1168 of December 18, 2013, relating to Military Training for the Years 2014 to 2019 and introducing Various Provisions concerning National Defence and Security]. 9 Jan. 2014, <http://www.wipo.int/wipolex/en/text.jsp?file_id=316583>.

[10] Aichi, L., *Livre vert de la defense* [Green book on defence] (Senat: Paris, 2014).

[11] Muriel Rambour, '"Défense verte" et risques liés au changement climatique' ["Green defence" and risks related to climate change], n.d., <http://www.jac-cerdacc.fr/defense-verte-et-risques-lies-au-changement-climatique>.

[12] Ministry of the Armed Forces of France, 'International conference "The Implications of Climate Change for Defence", 14 Oct. 2015', 21 Dec. 2015, <http://www.defense.gouv.fr/english/dgris/dgris/evenements-fr/

the MOD also co-organized with the US Army a seminar on 'risks induced by climate change and climate migrations' that took place in Tahiti.[13] DGRIS, the International Relations and Strategy Branch of the MOD, which leads international policy action within the MOD, has also produced analytical products that map environmental security risks in specific regions of the world.[14] It has also engaged with external research bodies to study links between climate, environment and conflict factors.[15] In April 2017 a feasibility study was carried out by DGRIS, the Ministry of the Environment, Energy and the Sea and the French National Museum of History to 'provide information, complementary to satellite data, to better anticipate natural disasters of climatic origin'. As the public announcement states, 'such information would be particularly useful to the armed forces for the protection and assistance of civilian populations'.[16] Nevertheless, there is little public evidence of how such analyses are being incorporated into military considerations more specifically.

Speeches and international forum debates

On the international stage the French Government has consistently maintained that a proactive multilateral approach is necessary to address the security impacts of climate change. In the 2007 UN Security Council debate on climate change, Ambassador Jean-Marc de La Sablière stated that climate change was among the main threats to the future of humankind. He went on to say it was a basic threat whose consequences were already affecting the world, that the issue fell within the Security Council's mandate to prevent conflicts, and that the consequences of climate change should be mainstreamed in risk analysis by the Secretariat.[17] In subsequent related debates French representatives have continued to maintain that climate change may 'aggravate conflict' and the Security Council has a role to play in terms of prevention.[18]

French politicians have also stressed urgency in relation to the climate change issue. President Hollande, on the eve of the Paris negotiations, appealed that climate change should be addressed 'in the name of security', and warned that it 'is the great challenge of the 21st century'.[19] Foreign Minister, Laurent Fabius in February 2015

international-conference-the-implications-of-climate-change-for-defence-14-october-20152>; 'Conférence sur la sécurité environnementale' [Conference on environmental security], *Courrier du Vietnam*, 21 Apr. 2017, <http://lecourrier.vn/conference-sur-la-securite-environnementale/395976.html>; and Ministry of the Armed Forces of France, 'Sécruité environmentale' [Environmental Security], 20 Apr. 2017, <http://www.defense.gouv.fr/content/download/502377/8527176/file/20170420-ConferenceSecuriteEnv-Flyer-Web.pdf>.

[13] Ministry of the Armed Forces of France, 'FAPF: Co-organisation d'un séminaire défense et changement climatique avec l'armée américaine' [FAPF: Co-organization of a defence and climate change seminar with the US Army], 14 June 2016, <http://www.defense.gouv.fr/english/actualites/international/fapf-co-organisation-d-un-seminaire-defense-et-changement-climatique-avec-l-armee-americaine>.

[14] Ministry of the Armed Forces of France, DGRIS Department, 'La France et la sécurité environnementale en Asie-Pacifique' [France and environmental security in Asia–Pacific], 22 Nov. 2016, <http://www.defense.gouv.fr/english/dgris/dgris/evenements-fr/la-france-et-la-securite-environnementale-en-asie-pacifique>.

[15] The French Institute for International and Strategic Affairs, 'L'IRIS lance l'Observatoire géopolitique des enjeux des changements climatiques en termes de sécurité et de defense' [IRIS launches geopolitical observatory of climate change in terms of security and defence], 4 Jan. 2017, <http://www.iris-france.org/communique-de-presse/liris-lance-lobservatoire-geopolitique-des-enjeux-des-changements-climatiques-en-termes-de-securite-et-de-defense/>.

[16] This study will look at migratory trans-Pacific bird behaviour, which is capable of anticipating cyclone production. Ministry of the Armed Forces of France, '"Barge rousse", un projet scientifique inédit, 7 avril 2017' [Red Barge, an unprecedented scientific project], 13 June 2017, <http://www.defense.gouv.fr/fre/dgris/la-dgris/evenements/barge-rousse-un-projet-scientifique-inedit-7-avril-2017>.

[17] United Nations, 'Security Council holds first ever debate on impact of climate change on peace, security, hearing over 50 speakers', 17 Apr. 2007, <http://www.un.org/press/en/2007/sc9000.doc.htm>.

[18] Permanent Representation of France at the United Nations, New York, 'Diplomatie préventive et eaux transfrontalières—Intervention de M. François Delattre, Représentant permanent de la France auprès des Nations Unies—Conseil de sécurité' [Preventive diplomacy and transboundary waters—statement by Mr François Delattre, Permanent Representative of France to the UN Security Council], 6 June 2017, <https://onu.delegfrance.org/Nous-devons-anticiper-les-crises-liees-a-l-eau>.

[19] 'Déclaration de M. François Hollande, Président de la République, sur la lutte contre le terrorisme, la question climatique et sur les efforts en faveur de la croissance économique, à Davos le 23 janvier 2015' [Statement by Mr François

stated that 'the survival of the planet itself is at stake . . . if you have climate degradation, global security as a whole is degraded',[20] later calling climate change 'a threat to peace'.[21] Although climate change did not feature prominently during Macron's candidacy, since the elections it has become a prominent priority on France's international agenda. Responding to Trump's withdrawal from the Paris agreement, Macron stated: 'If we do nothing, our children will know a world of migrations, of wars, of shortage. A dangerous world.'[22] In September 2016, stepping up France's leadership role in global environmental governance, Macron presented a Global Pact for the Environment at the 72nd session of the UN General Assembly. This proposal for an internationally legally binding framework for environmental laws remains at the early stages of consultation and discussion, but in draft form contains environmental regulations in relation to armed conflict and hard security.[23]

Institutionalization

As outlined, in comparison to the USA and the UK, France has been rather late in taking action regarding the security aspects of climate change. Climate change has been considered to be a too distant threat to be integrated into the defence strategy, and the French military has in general been less focused on strategic analysis and research than the other two countries.[24] On the basis of the 2008 defence white paper, the French military underwent a restructuring. Despite the attention paid to climate issues within that process, however, the 2009–2014 military programme, which translated the 2008 'French White Paper on defence and national security' into financial terms, did not contain any provisions for the integration of climate change considerations or adaptation into the military programming.[25]

However, as early as December 2007 the MOD had adopted an environmental action plan that mainstreamed sustainability into its procurement and operations. The MOD's policy integrates environmental considerations in relation to defence equipment, biodiversity at military sites, the environmental footprint and readiness of facilities. This action plan was updated in 2009 and again in 2011, with major financial incentives accompanying it.[26] In 2010 the green policy was—as mentioned above—institutionalized into the MOD with the release of S3D. The climate change and energy section of this strategy focused only on improved knowledge of carbon footprints and on strengthening energy policy in terms of security, control and consumption, however.[27] Thus while the French military has integrated sustainable development and carbon footprint issues into its planning, procurement and operations, its efforts are—in a strategic sense—less clearly institutionalized. As for new developments within the

Hollande, President of the Republic, on the fight against terrorism, the climate issue and efforts towards economic growth, Davos, 23 Jan. 2015], 2015, <http://discours.vie-publique.fr/notices/157000194.html>.

[20] Miles, T., 'France says climate talks crucial for world security', Reuters, 8 Feb. 2015, <http://www.reuters.com/article/us-climatechange-talks/france-says-climate-talks-crucial-for-world-security-idUSKBN0LC0U520150208>.

[21] Bryant, E., 'In Paris, top officials warn climate change poses major security threat', Deutsche Welle, 15 Oct. 2015, <http://www.dw.com/en/in-paris-top-officials-warn-climate-change-poses-major-security-threat/a-18784110>.

[22] President Emmanuel Macron, 'Statement from Emmanuel Macron, president of France', <https://www.pscp.tv/w/1jMKgoodLyqKL>.

[23] Hanne, I., 'A l'ONU, la France pose les jalons d'un pacte mondial pour l'environnement' [At the UN, France lays the groundwork for a global environmental pact], *Libération*, 20 Sep. 2017 <http://www.liberation.fr/planete/2017/09/20/a-l-onu-la-france-pose-les-jalons-d-un-pacte-mondial-pour-l-environnement_1597671>.

[24] Schaub, C., 'Le lien entre changement climatique et conflits n'est ni à surévaluer ni à négliger' [The link between climate change and the environment is neither overestimated nor neglected], *Libération*, 14 Oct. 2015, <http://www.liberation.fr/futurs/2015/10/14/le-lien-entre-changement-climatique-et-conflits-n-est-ni-a-surevaluer-ni-a-negliger_1403856>.

[25] Law no. 2013-1168 of December 18, 2013 (note 9).

[26] Ministry of the Armed Forces of France, 'Environnement' [Environment], [n.d.] <http://www.defense.gouv.fr/sga/le-sga-en-action/developpement-durable/environnement>.

[27] S3D aimed to integrate the National Strategy of Sustainable Development into the defence field. This strategy was introduced from 2010 to 2013.

military sector, commitments to increasing military spending by Macron, combined with what seems to be a vigorous agenda on climate action, could potentially result in new climate-related postures or policies from the defence sector.[28] However, this remains to be seen.

[28] President Macron has decided to increase military spending to reach 2% of GDP by 2025. The military budget for 2018 will increase from 32.4 to 34.2 billion. Poingt Guillaume, 'Les chiffres clés du budget 2018' [Key figures for the 2018 budget], *Le Figaro*, 27 Sep. 2017, <http://www.lefigaro.fr/conjoncture/2017/09/27/20002-20170927ART-FIG00144-les-chiffres-cle-du-projet-de-budget-2018.php>.

7. Conclusions

The security risks posed by climate change have started to be embedded in global and national policymaking during the last decade. Since climate change has far-reaching implications for human livelihood and activities, the potential security risks are broad and complex. Responses are required from several different policy communities—foreign affairs, defence, crisis management, environmental and development—in international organizations, national states and local communities. Currently, these policy communities are at different stages of developing their capability to address and mitigate climate-related security risks. At the international level, one key agent for agent for further developing the discussion and implementation of policy on climate-related security risk could be the UN Security Council. Five member states—China, Russia, the US, the UK and France—are permanent members of the UN Security Council (the so-called P5), with great individual influence as they each have veto power over Security Council resolutions and action.

This paper has examined how the national security and defence apparatuses of each of these five states assess the risk of climate change for national security, and to what extent they have begun to incorporate those assessments into their plans and operations. To that end, this paper has provided a summary and overview of the P5 countries' climate-related security discourse and its related institutionalization. It does not attempt to give a causal explanation of their evolving positions and postures, but does provide the groundwork for understanding their trajectories. It gives some national context for the emergent international policy debate on the adverse effects of climate change, including statements made in international forums such as the Security Council. The focus has been on tracing climate-related security discourse and institutionalization. The concluding section provides a brief summary of the five countries' positions.

In connection to China and Russia—possibly due to the dearth of publicly available information—it remains difficult to see what if any adaptation efforts are being undertaken by the militaries in relation to climate change, or any structural changes in military strategy, planning or processes in the light of new threat assessments. Mitigation is being undertaken by the Chinese military, but this is part of a government-wide effort mandated by the political leadership. The PLA is in fact tasked with within-country HADR. Any increase in the frequency of domestic extreme weather events, or alterations to the nature of such events, is likely to further the Chinese military's planning and preparation in this regard; however, in terms of climate change's impacts on international security, thinking remains nascent. China continues to publicly maintain that climate change risks should be addressed from the angle of sustainable development. However, this policy posture may be subject to change, particularly as China increasingly becomes a more pronounced and proactive international security actor.

In Russia the laissez-faire attitude of the national security apparatus towards climate change may be related to the assumption by top-level policymakers that the country is less vulnerable to the adverse effects of climate change, and may even incur net benefits from global warming. With a state apparatus that is deeply invested in the oil and gas sector, moreover, low-carbon development in fact poses a threat to Russia's economic security by reducing external demand for Russian energy resources. Notwithstanding, passing references to climate change as a global threat in strategy documents, or statements made by then President Medvedev, institutional change with regard to climate security is slow if not non-existent. The one exception to this state of affairs is in the Arctic, where the Russian government and military have taken a keen interest and proactive stance in preparing for the changing conditions. With regard

to both Russia and China, climate-related security policy and discourse is low. This is the case despite significant government attention on a number of sectors impacted by climate change, such as food security, water security and energy security—each of which is more explicitly defined as a component of national security. In this regard, the knock-on effects of climate change on resource security are in fact pertinent. Additionally, both governments tow an official and increasingly well-developed line of thinking in relation to 'ecological' or 'environmental' security.

Comparatively, the USA, the UK and France have clearly evolved their respective climate security discourses and processes over the past decades. Despite political turnover and some policy reversal, the discourse and understanding of both domestic and international security risks related to a changing climate has made what might arguably be deemed irreversible progress in terms of the socialization of political elite and policy departments. In the USA defence officials have continued to maintain the importance of preparedness for climate impacts, and a Republican-controlled Congress recently passed legislation legitimizing and furthering the DOD's efforts in this regard—in spite of Trump's climate scepticism. Adaptation efforts by the security sector, particularly in connection to the impacts of sea-level rise on military assets and facilities, are continuing. The foreign policy apparatus has taken a somewhat backseat role in driving national institutional change in this regard. However, it remains to be seen what the US stance in international peace and security debates—such as in the UN Security Council—will be.

The UK has been the most active country on the international stage. It forwarded climate change as a matter relevant for the security agenda, having initiated in 2007 the first UN Security Council debate on the topic, and has continued to maintain that a global and multilateral policy response is necessary. It has specifically mandated the FCO to act as an agent of change in this regard. The MOD meanwhile has quite steadily incorporated climate change into its planning and operations. The prioritization of climate security has, however, faded somewhat in the face of other governmental priorities in recent years, and it is still unclear how the present government's position on this issue might evolve following Brexit. France's practical response and institutionalization of climate security into military and foreign policy structures has been less evident, although its discourse in recent years has largely been in line with that of the UK. Taken overall, this overview shows that efforts—albeit at times patchy—by national-level security actors to consider and address climate impacts have become more substantial and institutionalized. However, there is as of yet no high-level convergence among the states, of which the critical players the USA, China and Russia continue to view climate security in primarily national terms rather than appealing to international or multilateral security response frameworks.

Beyond delineating the scale and scope of national responses, this paper does not seek to contribute to the political or normative discussion on whether or not the security-specific response of the P5 states towards climate change is sufficient and/or justified. The evidence detailed above indicates that the discourse and practice of climate security is to an extent still about value-based judgements; whether at an intra-governmental, national or international level, there are clearly considerations involved that go beyond scientific, defence and intelligence assessments about impacts—the evidence base—which determine degree to which climate security is taken up by a specific government and integrated into defence and foreign policy decision making. This paper has also not sought to probe into why certain states' security sectors have incorporated climate change as a relevant risk more or less than others, although it does lay the foundation for such analysis. However, this report hopefully provides both the empirical groundwork for further research and deeper analysis of each of the five countries respectively, and for a comparative perspective, as well as a basis for situating broader international debates and agendas within national-level politics.

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