Public Perceptions of Climate Change and Security

A Report

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Executive Summary

Public perceptions of the relationship between climate change and security remain relatively unexplored and undocumented. Our findings, detailed in this report, suggest that the public is largely unfamiliar with the idea of a connection between climate change and security, but also that many would be willing to consider modifying their lifestyles and voting behavior if they were to conclude that issues of global or national security were at stake.

In late September 2016, the Center on Terrorism at John Jay College, working with an independent research firm, surveyed a nationally representative set of respondents about climate change and security. The answers to our questions indicate that, even among the majority of Americans who think that climate change is happening and that human actions are causing or contributing to it, familiarity with the idea of a relationship between climate change and security remains relatively low. Of those respondents who indicated acceptance of the evidence for human-caused climate change, fewer than half were familiar with the idea that climate change may act as a catalyst for conflict or multiply global security threats. An even smaller portion— some 15 percent— had ever heard or read the idea that a severe drought in Syria, likely caused or worsened by climate change, was one of many factors that helped spark the conflict that continues there today.

Nevertheless, respondents indicated a notable openness to changes in behavior if they came to believe that climate change and security were causally interrelated. When presented with a hypothetical in which they concluded that climate change contributed to security threats, a majority of those who think that human-caused climate change is happening indicated that they would likely weigh climate and energy more heavily in their voting decisions, and seriously consider lifestyle changes. Participants indicated the greatest willingness to take action when United States national security, rather than global security, was at stake. Taking an inclusive approach to "openness" – encompassing "definitely," "probably," and "maybe" responses – we found that 90 percent of those who think human-caused climate change is happening were open to amending their voting priorities and 93 percent were open to seriously considering lifestyle changes, if they perceived a threat to national security. When excluding "maybe" responses, willingness to "probably" or "definitely" adapt behavior along the same lines measured at 66 and 67 percent.

While the military, national security and intelligence communities, as well as academic researchers, have studied the connections between climate change and security in some detail, relatively little research has probed public perceptions in this area. If reinforced and expanded upon by further research, these findings could have significant implications for climate change communication.

I. Overview

The Center compiled a short series of questions concerning the connections between climate change and security, available in full at Appendix A. Our goal was to begin quantifying both public familiarity with the idea of climate change as a security threat, and the potential impact that increased or changed awareness might have on individual lifestyle and voting decisions. We sought this information particularly for the subset of the population who already accept scientific evidence that human-caused climate change is occurring, based upon our hypothesis that this group would be more open to changing behavior in response to information about climate and security than those who do not think that human-caused climate change is occurring. The survey's first question therefore differentiated between respondents who think that human-caused climate change is occurring (Group A, roughly 74 percent of respondents) and those who do not (Group B, roughly 25 percent of respondents).[1]

Two questions then assessed respondents' familiarity with the idea of climate change as a threat multiplier or catalyst for conflict. Question 2 was more conceptual, while Question 3 pertained to the specific context of the Syrian uprising that began in 2011 and the drought that preceded it. The remaining question employed a scale along which respondents rated their agreement with four statements, to assess their openness to changes in lifestyle and voting behavior in the hypothetical event they concluded that climate change threatens national or global security.

With funding from the Research Foundation of the City University of New York, the Center placed these questions on GfK's KnowledgePanel OmniWeb survey, a probability-based online research panel designed to be statistically representative of the United States population at large.[2] For each question, responses were tabulated along categories for gender, age, income, and region. Separate tabulations were compiled for the entire set of respondents, and for Group A

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[1]   Percentages in this report are rounded to the nearest whole number. Seventy-four percent of all respondents indicated that they think climate change, or global warming, is happening, "and that human activities are causing or contributing it." Another survey conducted in November-December 2016 by Carsey School of Public Policy researchers from the University of New Hampshire found that 65 percent of respondents think that climate change is happening now, and it is caused mainly by human activities. (Lawrence Hamilton, "On Renewable Energy and Climate, Trump Voters Stand Apart," February 2, 2017. https://carsey.unh.edu/publication/energy-climate-trump.) Similarly, a recent Gallup poll found that 68 percent of Americans "believe increases in earth's temperatures over the last century are mainly due to the effects of pollution from human activities." (Lydia Saad. "Global Warming Concern at Three Decade High in US," Gallup, March 14, 2017. http://www.gallup.com/poll/206030/global-warming-concern-three-decade-high.aspx?utm_source=genericbutton&utm_medium=organic&utm_campaign=sharing.) One possible reason for the higher proportion of affirmative responses in our survey is the question's more open-ended phrasing, allowing a "yes" response for those who think human actions are contributing to climate change, even if not necessarily a primary cause. (See also, Yale Climate Opinion Maps – U.S. 2016, http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/, finding in two separate estimates that 70 percent of the public believe global warming is happening, while 53 percent believe global warming is caused mostly by human activities).

[2]   GfK Knowledge Networks website, http://www.knowledgenetworks.com/GANP/. See Appendix B for a more detailed description of GfK's methodology.

alone. The Center compiled three overview tables of key results (excluding demographic variables), available at Appendix C.

II.   Background: Federal Government Efforts and Academic Research

For many years, the United States government and national security community have explored links between climate change and security.[3] Indeed, since 2003, the security community has integrated climate risks into nearly 70 unclassified defense, intelligence, and homeland security assessments, strategies, and plans.[4] In an early example, a Pentagon adviser commissioned the 2003 report entitled An Abrupt Climate Change Scenario and Its Implications for United States National Security.[5] Reports by the CNA Corporation's Military Advisory Board – a group of retired officers from the Army, Navy, Air Force, and Marine Corps – described climate change as a "threat multiplier" in 2007 and as a "catalyst for conflict" in 2014.[6] In a forward to the updated 2014 report, National Security and the Accelerating Risks of Climate Change, Michael Chertoff (former Secretary of Homeland Security) and Leon Panetta (former Secretary of Defense) described the report as a "bipartisan call to action."[7] Some in the national security community have explored these links since the 1990s.[8] Over the years, the U.S. Department of Defense and the intelligence community[9], the U.S. Department of Homeland Security[10], and the

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[3]   Some efforts to understand connections between climate change and security, such as the Central Intelligence Agency's MEDEA program, and research by the United States Naval War College, date as far back as the early 1990s. (Caitlin Werrell and Francesco Femia. "Chronology of Military and Intelligence Concerns About Climate Change." The Center for Climate and Security, Jan. 12, 2017, https://climateandsecurity.org/2017/01/12/chronology-of-the-u-s-military-and-intelligence-communitys-concern-about-climate-change/, accessed March 4, 2017. Terry Kelley. "Global Climate Change Implications for the United States Navy." The United States Naval War College, May 1990. http://documents.theblackvault.com/documents/weather/climatechange/globalclimatechange-navy.pdf).

[4]   Caitlin Werrell and Francesco Femia. "New Briefer: Why the U.S. National Security Community Takes Climate Risks Seriously." The Center for Climate and Security, Dec. 13, 2016. https://climateandsecurity.org/2016/12/21/why-the-u-s-national-security-community-takes-climate-risks-seriously/, accessed March 4, 2017.

[5]   Peter Schwartz and Doug Randall. "An Abrupt Climate Change Scenario and Its Implications for United States National Security." California Inst of Technology Pasadena CA Jet Propulsion Lab, Oct. 2003. http://www.iatp.org/files/An_Abrupt_Climate_Change_Scenario_and_Its_Impl.pdf. While speculative in nature, this report demonstrated awareness and interest at the federal level concerning possible connections between climate change and security.

[6]   Military Advisory Board, "National Security and the Threat of Climate Change." CNA Corporation, 2007. https://www.cna.org/cna_files/pdf/national%20security%20and%20the%20threat%20of%20climate%20change.pdf. Military Advisory Board, "National Security and the Accelerating Risks of Climate Change." CNA Corporation, 2014, https://www.cna.org/CNA_files/PDF/MAB-201406508.pdf.

[7]   Advisory Board, "National Security and the Accelerating Risks of Climate Change." CNA Corporation, 2014, https://www.cna.org/CNA_files/PDF/MAB-201406508.pdf.

[8]   Caitlin Werrell and Fracesco Femia. "Chronology of Military and Intelligence Concerns About Climate Change." The Center for Climate & Security, Jan. 12, 2017, https://climateandsecurity.org/2017/01/12/chronology-of-the-u-s-military-and-intelligence-communitys-concern-about-climate-change/ (See Footnote 3).

[9]   Id.

U.S. Department of State[11], as well as other national and international agencies and organizations, have considered these risks publicly and repeatedly.[12] Earlier this year, Secretary of Defense James Mattis stated in written answers to questions posed by members of the Senate Armed Services Committee after his confirmation hearing in January that "[c]limate change is impacting stability in areas of the world where our troops are operating today."[13]

Academic researchers also have explored these relationships, recognizing the complexities of the connections between climate change, conflict, and security. For example, Nina von Uexkull and co-authors noted in the Proceedings of the National Academy of Sciences that "[u]nderstanding the conflict potential of drought is critical for dealing effectively with the societal implications of climate change."[14] And in a groundbreaking study, Colin Kelley and colleagues concluded that "a drought of the severity and duration of the recent Syrian drought, which is implicated in the current conflict, has become more than twice as likely as a consequence of human interference in the climate system."[15] The academic literature includes many other relevant examples, exploring the multi-dimensional relationship between climate change and security from a range of perspectives.

While governmental bodies and academic researchers have studied the relationship between climate change and security, less evidence documents public familiarity with, and opinions about, these connections. One paper that touched upon this topic by Teresa Myers, et al., evaluated assumptions that framing climate change in terms of public health or national security might make the issue more personally relevant to segments of the public who were disengaged or dismissive.[16] Myers and colleagues concluded that the national security frame might "boomerang among audience segments already doubtful or dismissive of the issue, eliciting unintended feelings of anger."[17] Here, we focused on those who accept the scientific evidence of anthropogenic climate change rather than those who are doubtful or dismissive of it, and considered respondents' awareness and potential behavioral impacts, rather than their emotional

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[10]   The Center for Climate & Security. "Homeland Security." https://climateandsecurity.org/homeland-security/, accessed March 4, 2017.

[11]   "Enduring Leadership in a Dynamic World." Quadrennial Diplomacy and Development Review, 2015. https://www.state.gov/documents/organization/267396.pdf

[12]   "Chronology." Climate Security 101: A Project of The Center for Climate and Security. https://climatesecurity101.org/chronology/

[13]   Andrew Revkin. "Trump's Defense Secretary Cites Climate Change as National Security Challenge." ProPublica, March 14, 2017. https://www.propublica.org/article/trumps-defense-secretary-cites-climate-change-national-security-challenge.

[14]   Nina von Uexkull, Mihai Croicu, Hanne Fjelde, and Halvard Buhaug. "Civil Conflict Sensitivity to Growing-Season Drought." Proceedings of the National Academy of Sciences, vol. 113 no. 44, 2016. http://www.pnas.org/content/113/44/12391.full.

[15]   "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." Proceedings of the National Academy of Sciences, vol. 112 no 11, 2015.

[16]   Myers, T.A., Nisbet, M.C., Maibach, E.W. et al. "A Public Health Frame Arouses Hopeful Emotions about Climate Change." Climatic Change, 2012. 113: 1105.

[17]   *Id.*

reactions. Nonetheless, Myers' results serve as an important qualifying factor when evaluating how greater familiarity with the idea of a climate-security security relationship might impact public discourse about climate change.

III. Familiarity Among Those who Think Human-Caused Climate Change is Occurring

Question 2 measured respondents' familiarity with the idea that climate change may exacerbate or multiply security threats, such as threats of political violence, conflicts, and large-scale migrations. Question 3 assessed respondents' exposure to the idea that a climate change-related drought was one of many factors that helped spark political unrest in Syria and fed into the uprising that led to the ongoing conflict. Respondents were asked only to indicate their familiarity with and exposure to these ideas, rather than to agree or disagree.

We focus first on the responses of Group A respondents, or those who think that human-caused climate change is occurring. Responses indicated that a majority of Group A lacked familiarity with the concepts highlighted in both Questions 2 and 3. Fewer than half of Group A respondents (about 42 percent) reported familiarity with the general concept of climate change as a catalyst for conflict or threat multiplier. Another 28 percent were not sure, and 31 percent reported being unfamiliar with the idea. As applied specifically to the conflict in Syria, which was preceded by a severe drought, familiarity was even lower at 15 percent. Another 21 percent were not sure, while 64 percent reported that they had never heard or read about the idea that a drought was one of many factors that helped spark the Syrian conflict.

Gender and age appeared to have limited correlations with familiarity among Group A respondents. We did not detect a meaningful correlation, overall, with the income or regional categories as defined by GfK.[18] More men reported familiarity with the general concept of a relationship between climate change and conflict: 50 percent of men reported familiarity compared with only 35 percent of women. In contrast, more women reported uncertainty (33 percent of women versus 21 percent of men), while similar numbers of men and women (29 percent and 32 percent, respectively) indicated that they were not familiar with the idea. Respondents aged 65 and over reported the least familiarity with the general concept of a climate-conflict relationship as expressed in Question 2. With a 28 percent "yes" rate, those aged 65 and over reported significantly less familiarity than respondents in every other age group, with significance determined at a 95 percent confidence level. The noted correlations with age and gender were limited to Question 2 (the general concept) and did not transfer over to Question 3 (the Syria application).

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[18]   However, we recognize that correlations with income and/or geographical region may exist, particularly when defining categories and ranges differently from those utilized for this survey.

IV. Potential Impacts Among Those who Think Human-Caused Climate Change is Occurring

Question 4 includes four statements, and asks respondents to rate their agreement with each along a five-option scale ranging from "definitely" to "definitely not." The statements relate to likely impacts on respondents' lifestyle and voting decisions, in the hypothetical event respondents felt certain about specific security repercussions of climate change. The first two statements concern global security, assessing respondents' likely changes in lifestyle and voting decisions if they became "certain that climate change contributed to terrorism, wars, and mass migrations in the world." The next two statements concern U.S. national security, assessing likely impacts in the hypothetical event that respondents "were certain that climate change posed a threat to the national security of the United States."

In response to the global security formulation, 59 percent of Group A rated their agreement level as "probably" or "definitely" with the statement that they would seriously consider making additional, moderate lifestyle changes if they were certain about the specified security threats. A similar 61 percent of Group A reported that, if they were certain about the specified security threats, they would "probably" or "definitely" focus more on candidates' climate and energy positions when voting. Adding "maybe" responses raises these figures up to 89 percent and 88 percent for lifestyle and voting changes, respectively. Only 10 percent of Group A indicated they would probably or definitely not "seriously consider…lifestyle changes," while only 11 percent reported that climate and energy would probably or definitely not feature more prominently in their voting decisions. For the most part, respondents in Group A answered these questions similarly across demographic categories. Women expressed a slightly greater openness to lifestyle changes (62 percent of women versus 55 percent of men), and age appeared to correlate with some differences in voting decisions, but we did not discern a pronounced or clear-cut trend in the latter.

In response to the national security formulation, 67 percent of Group A rated their agreement level as "probably" or "definitely" with the statement that they would seriously consider making additional, moderate lifestyle changes if they were certain that climate change posed a threat to U.S. national security. Similarly, 66 percent of group A reported that, if they were certain about the specified national security threat, they would "probably" or "definitely" focus more on candidates' climate and energy positions when voting. Adding "maybe" responses raises these figures up to 93 percent and 90 percent for lifestyle and voting changes, respectively. Only six percent of group A indicated they would probably or definitely not "seriously consider…lifestyle changes," while only nine percent reported that climate and energy would probably or definitely not feature more prominently in their voting decisions.

For the most part, respondents in Group A answered these questions similarly across demographic categories. In one discernable trend, Group A respondents aged 65 and over indicated a higher degree of willingness to change behavior – if national security were at stake – than respondents in all other age groups. Specifically, 76 percent of respondents aged 65 and over rated their agreement as "definitely" or "probably" with the statement that they would "seriously consider…lifestyle changes," while 75 percent would "definitely" or "probably" focus more on candidates' climate and energy positions when voting.

V.   Familiarity and Behavioral Impacts Among All Respondents

For the full set of participants, responses were similar to those in Group A, but familiarity and openness to behavioral changes were both lower. The similarity of results necessarily reflects the large presence (74 percent) of Group A within the total set. We do not currently have segregated data for Group B respondents (*i.e.,* those who do not think that climate change is occurring and that human actions are causing or contributing to it). We extrapolate that those responses, if segregated, would offer a sharper contrast with Group A.

Familiarity with the general concept of climate change as a threat multiplier or catalyst for conflict was slightly lower among the complete set of respondents (38 percent) as compared to Group A alone (42 percent). Yet familiarity with this concept in the specific context of the Syrian example was nearly identical (and within the 3-point margin of error), with 14 percent familiarity for the complete set and 15 percent for Group A. In the full set of respondents, men reported greater familiarity with the general idea that climate change may act as a catalyst for conflict (44 percent of men compared with 31 percent of women), and slightly greater familiarity with the Syrian example (17 percent of men compared with 12 percent of women). Respondents aged 65 and over reported greater unfamiliarity with these concepts than other age groups, with a more pronounced correlation noted in response to the general question than the Syria example.

Openness to changing lifestyle and voting decisions also was lower among the complete set of respondents than among Group A alone. In the global security formulation, 51 percent of all respondents rated their agreement level as "definitely" or "probably" with the statement that they would "seriously consider…lifestyle changes" if certain that climate change contributed to "terrorism, wars, and mass migrations in the world." Similarly, in the same hypothetical, 52 percent of all respondents would "definitely" or "probably" focus more on climate and energy when voting. When adding in "maybe" responses, these figures rise to 83 percent and 81 percent, respectively. Women expressed somewhat greater openness to changing behavior than men, with significantly more "definitely" responses to the lifestyle statement, and significantly more "maybe" responses to the voting statement.

In response to the national security formulation, 59 percent of respondents rated their agreement level as "definitely" or "probably" with the statement that they would "seriously consider…lifestyle changes" if certain that climate change posed a threat to U.S. national security. In the same hypothetical, 56 percent of all respondents indicated that they would "definitely" or "probably" focus more on candidates' positions on climate and energy when voting. When adding in "maybe" responses, these figures rise to 87 percent and 84 percent, respectively. Those ages 65 and older expressed significantly more openness to changing behavior than respondents in other age categories.

VI.   Conclusion

Survey results indicated that those who think human-caused climate change is occurring (Group A) are more open to changing lifestyle and voting behavior in response to information about climate change and security than the general population. More than half of those who think that anthropogenic climate change is occurring remain unfamiliar with the relationship (or even the idea of a relationship) between climate change and conflict, despite the fact that academics, the U.S. government, and the national security community have studied the relationship extensively, in some instances beginning nearly three decades ago. Finally, results indicate that, if information about the relationship between climate change and security, particularly national security, were effectively conveyed to this majority segment of the population such that they perceived climate change as a security threat, large-scale changes in voting and lifestyle decisions might result. Interestingly, results also indicated that respondents aged 65 and over may be more open to changing behavior than other groups, if provided with additional information.

However, prior research indicates that emphasizing a national security frame for climate change may trigger pronounced negative reactions in the minority of the population who do not think that human-caused climate change is occurring. The ultimate effect of increasing public information about the relationship between climate change and security is not known, but this survey suggests it could have a powerful influence on the continuing policy debate and discourse. Additional research may expand upon these findings and lead to a more comprehensive understanding of public perceptions of the relationship between climate change and security. The purposes of this report include: making new information available to policymakers, academics, research organizations, and others; sparking new inquiries; and laying the groundwork for future research.

APPENDIX A

The Center placed the following questions on GfK's KnowledgePanel, which respondents completed online between September 23 and September 25, 2016.

Q1.   Do you think that climate change, or global warming, is happening and that human actions are causing or contributing to it? (Select only one response.)

1. Yes
2. No

Q2.   Are you familiar with the idea that climate change may act as a catalyst for conflict, or multiply threats of terrorism, wars, and mass migrations in the world? (Select only one response.)

1. Yes
2. No
3. Not Sure

Q3.   Have you ever heard or read the idea that a severe drought in Syria, likely caused or worsened by climate change, was one of many factors that helped spark the conflict currently raging there? (Select only one response.)

1. Yes
2. No
3. Not Sure

Q4.   Please rate your agreement with the following statements: (Select only one response for each.)

Statements on row:

1. If I were certain that climate change contributed to terrorism, wars, and mass migrations in the world, I would seriously consider making additional, moderate lifestyle changes.

2. If I were certain that climate change contributed to terrorism, wars, and mass migrations in the world, I would be more focused on candidates' positions on climate and energy when deciding who gets my vote.

3. If I were certain that climate change posed a threat to the national security of the United States, I would seriously consider making additional, moderate lifestyle changes.

4. If I were certain that climate change posed a threat to the national security of the United States, I would be more focused on candidates' positions on climate and energy when deciding who gets my vote.

Responses in columns:

1. Definitely
2. Probably
3. Maybe
4. Probably Not
5. Definitely Not

APPENDIX B

Methodology

The survey was conducted using the web-enabled KnowledgePanel®, a probability-based panel designed to be representative of the U.S. population. GfK materials explain further:

> Initially, participants are chosen scientifically by a random selection of telephone numbers and residential addresses. Persons in selected households are then invited by telephone or by mail to participate in the web-enabled KnowledgePanel®. For those who agree to participate, but do not already have Internet access, GfK provides at no cost a laptop and ISP connection. People who already have computers and Internet service are permitted to participate using their own equipment. Panelists then receive unique log-in information for accessing surveys online, and then are sent emails throughout each month inviting them to participate in research.

The survey was fielded to 1002 male and female adults, all 18 years of age and over. Interviews are weighted to ensure accurate and reliable representation of the total population. GfK assigns each interview a weight derived from the relationship between the actual proportion of the population with its specific combination of age, sex, education, race, and geographic characteristics, and the proportion in GfK's sample that week. The margin of error on weighted data is plus or minus three percentage points.

Additional information about KnowledgePanel® is available here: http://www.gfk.com/products-a-z/us/knowledgepanel-united-states/.

Key Summary Data for Group A and All Respondents[19]

Table 1

Familiarity with the Idea of Connections Between Climate Change and Security

	Group A	All Respondents
Familiarity with the general idea of climate change as a catalyst for conflict/threat multiplier		
Yes	41.7	37.5
No	30.7	33.0
Not Sure	27.5	28.3
Familiarity with the climate change-security connection as applied in the Syrian example		
Yes	15.0	14.4
No	64.1	62.1
Not Sure	20.9	22.4

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[19]   Responses are reported in percentages, based upon weighted data provided by GfK.

Table 2

**Openness to Changing Behavior
If Certain That Climate Change Threatened Global Security**

	Group A	All Respondents
Would seriously consider lifestyle changes		
Definitely/Probably (Net)	58.9	50.8
Maybe	30.3	31.8
→Definitely/Probably (Net) + Maybe	89.2	82.6
Probably/Definitely Not (Net)	9.8	15.1
Would focus more on climate and energy in voting decisions		
Definitely/Probably (Net)	61.1	51.7
Maybe	26.6	29.3
→Definitely/Probably (Net) + Maybe	87.7	81.0
Probably/Definitely Not (Net)	11.3	16.9

Table 3

Openness to Changing Behavior
If Certain That Climate Change Threatened National Security

	Group A	All Respondents
Would seriously consider lifestyle changes		
Definitely/Probably (Net)	67.3	58.7
Maybe	25.3	27.9
→Definitely/Probably (Net) + Maybe	92.6	86.6
Probably/Definitely Not (Net)	6.4	10.9
Would focus more on climate and energy in voting decisions		
Definitely/Probably (Net)	65.7	55.7
Maybe	24.3	28.1
→Definitely/Probably (Net) + Maybe	90.0	83.8
Probably/Definitely Not (Net)	8.9	13.8