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Climate Security Insights from the COVID-19 Response

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Climate Security Insights from the COVID-19 Response

MARK NEVITT*

The climate change crisis and COVID-19 crisis are both complex collective action problems. Neither the coronavirus nor greenhouse gas (GHG) emissions respect political borders. Both impose an opportunity cost that penalizes inaction. They are also increasingly understood as nontraditional, novel security threats. Indeed, COVID-19's human cost is staggering, with American lives lost vastly exceeding those lost in recent armed conflicts. And climate change is both a threat accelerant and a catalyst for conflict—a characterization reinforced in several climate-security reports. To counter COVID-19, the President embraced martial language, stating that he will employ a “wartime footing” to “defeat the virus.” Perhaps not surprisingly, the military has played a critical role in the government’s pandemic response. The National Guard has staffed hospitals, vaccination sites, and schools. As our pandemic response continues, what insights are emerging that will inform our climate response? This Article identifies and analyzes several, focusing on the relationship between health security and climate security. These insights—particularly the U.S. domestic military response and how we conceptualize “security”—have normative implications for climate governance and disaster response.

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INTRODUCTION

We should never let a good crisis go to waste.¹

1. See John Mutter, *Opportunity from Crisis*, FOREIGN AFFAIRS (Apr. 18, 2016) (quoting Sir Winston Churchill), <https://www.foreignaffairs.com/articles/2016-04-18/opportunity-crisis> [<https://perma.cc/HRA9-VECU>]. This sentiment was reiterated by authors writing in

Private Shina Vang collapsed in exhaustion. It has been a busy time for Private Vang and her fellow soldiers with the Minnesota National Guard.² In 2020, her unit deployed to Minneapolis for the George Floyd protests.³ She had started the year standing sentinel at the U.S. Capitol in the aftermath of the January 6th insurrection.⁴ From there, her unit deployed to the Horn of Africa for an undisclosed mission. In the aftermath of the United States' disastrous Afghanistan withdrawal, Private Vang found herself stateside once again, assisting Afghan refugees with visa applications and helping Afghan families adjust to life on a nearby military installation.

Today, she finds herself helping elderly patients at a nursing home. This was due to a massive, COVID-19 staffing shortage, driven in part by the "Great Resignation"⁵ and workers' refusal to comply with vaccination requirements.⁶ Meanwhile, her fellow National Guard men and women manned vaccination centers, staffed adjacent hospitals, taught kindergarten, and even drove school buses.⁷ It was an equally-busy 2022 for the National Guard.⁸ And of course the wildfire season was right around the corner—another reason for National Guard presence. Military officials were heeding scientific warnings, which predicted that climate change was poised to

The Lancet, "Leaders of the world have an unprecedented opportunity to deliver a future of improved health, reduced inequity, and economic and environmental sustainability. However, this will only be possible if the world acts together to ensure that no person is left behind." Marina Romanello et al., *The 2021 Report of the Lancet Countdown on Health and Climate Change: Code Red for a Healthy Future*, 398 LANCET 1619, 1621 (2021).

2. See Andrew Jacobs, *National Guard Empties Bedpans and Clips Toenails at Nursing Homes*, N.Y. TIMES (Jan. 10, 2022), <https://www.nytimes.com/2021/12/22/health/covid-national-guard-nursing-homes.html> [<https://perma.cc/UEA7-VGJX>]; see also Elliott Ramos, *Here's Where the National Guard is Deployed for COVID Response*, NBC NEWS (Feb. 3, 2022, 12:20 PM), <https://www.nbcnews.com/news/us-news/map-here-s-where-national-guard-deployed-covid-response-n1288544> [<https://perma.cc/4YEQ-4SC6>]. My narrative draws loosely on the story of one Minnesota National Guard member highlighted in the *New York Times* at the end of 2021.

3. Jacobs, *supra* note 2 (describing the scope and scale of the Minnesota National Guard's role). See also Sean Kimmons, *Minnesota Guard Soldier Eases Tension with Protestors*, NAT'L GUARD, (June 8, 2020), <https://www.nationalguard.mil/News/Article/2210938/minnesota-guard-soldier-eases-tensions-with-protesters/> [<https://perma.cc/K4ND-AGR9>].

4. Jacobs, *supra* note 2.

5. See, e.g., Emma Goldberg, *All of Those Quitters? They're at Work*, N.Y. TIMES (May 13, 2022), <https://www.nytimes.com/2022/05/13/business/great-resignation-jobs.html> [<https://perma.cc/TL49-PGXA>].

6. Private Vang is required to comply with military vaccination requirements as a lawful military order, consistent with the Uniform Code of Military Justice. 10 U.S.C. § 1107a (2020). The Great Resignation refers to the massive resignation of forty million workers from the workforce during COVID. Goldberg, *supra* note 5.

7. Pete Muntean, *Governor Activates National Guard to Drive School Buses*, CNN (Sept. 14, 2021), <https://www.cnn.com/videos/us/2021/09/14/school-bus-drivers-national-guard-covid-muntean-dnt-lead-vpx.cnn> [<https://perma.cc/SQ2A-G72J>].

8. Erich B. Smith, *Guard Continues Domestic, Global Missions in a Busy 2022*, NAT'L GUARD BUREAU (Dec. 21, 2022), <https://www.nationalguard.mil/News/Article/3252603/guard-continues-domestic-global-missions-in-a-busy-2022/> [<https://perma.cc/B5HF-63JW>].

exacerbate extreme weather and intensify wildfires.⁹ Private Vang better get some rest.

Are such military deployments the “new normal”? What insights can be gleaned from the COVID-19 crisis as we prepare for a future shaped by climate change’s destabilizing impacts? This Article addresses these questions, arguing that our COVID-19 pandemic response offers powerful insights for climate-driven disaster response. In doing so, it argues that COVID-19 is upending traditional conceptions of human and national security.

As the coronavirus spread around the world in February 2020, environmentalist Bill McKibben exclaimed, “[T]he next ten years for climate change is what February was to the coronavirus.”¹⁰ Indeed, the coronavirus and climate crises share much in common. First and foremost, they are both complex, global collective action problems.¹¹ Effective pandemic and climate responses involve “top-down” governance as well as “bottom-up” societal behavioral adaptation.¹² Independent of government-sponsored vaccination efforts, travel restrictions, and other pandemic-related regulatory requirements, an effective coronavirus response was aided by individual behavioral modifications.¹³ Climate change and COVID-19 also impose an opportunity cost on inaction.¹⁴ And both disproportionately impact poorer

9. One thousand two hundred National Guard men and women helped fight the Creek Fire in California last year. Brigadier General Smiley, a senior officer in the California National Guard told then-Secretary of Defense Mark Esper, “[o]ur fire season starts sooner . . . Every year our fire season is growing in length.” Dan Lamothe, *After a Daring Rescue in ‘Apocalyptic’ Wildfire Conditions, the Military Prepares for a Long Fight*, WASH. POST (Sept. 24, 2020, 7:00 AM), <https://www.washingtonpost.com/national-security/2020/09/24/after-daring-rescue-apocalyptic-wildfire-conditions-military-prepares-long-fight/> [<https://perma.cc/338K-5XA3>]. See also INT’L MIL. COUNCIL ON CLIMATE & SEC. EXPERT GRP., *THE WORLD CLIMATE AND SECURITY REPORT 2021 7* (2021) [hereinafter *Climate Security Report*] (finding that “[m]ilitaries will be increasingly overstretched as climate change intensifies” and “[t]he global governance system is ill-equipped to deal with the security risks posed by climate change”).

10. Rachel Westrate, *What Does the COVID-19 Pandemic Mean for Climate Change?*, LAWFARE (June 23, 2020, 8:01 AM) (quoting activist Bill McKibben on Professor Noah Feldman’s podcast), <https://www.lawfareblog.com/what-does-covid-19-pandemic-mean-climate-change> [<https://perma.cc/5RZH-EUKF>].

11. Professor Dan Bodansky has labeled climate change the “mother of all global commons collective action problems.” Daniel Bodansky, *Climate Change: Reversing the Past and Advancing the Future*, 115 AM. J. INT’L L. UNBOUND 80, 80 (2021).

12. See, e.g., Arden Rowell, *COVID-19 and Environmental Law*, 50 ENV’T L. REP. 10881 (2020) (identifying behavioral responses triggered by the pandemic and applying these lessons to environmental law).

13. These include social distancing, vaccine inoculation, and mask wearing. For a discussion of different collective action models, see Pamela E. Oliver, *Formal Models of Collective Action*, 19 ANN. REV. SOCIO. 271 (1993).

14. For a discussion of the similarities between climate change and COVID-19 in the interdisciplinary literature, see Kristie L. Ebi, Kathryn J. Bowen, Julie Calkins, Minpeng Chen, Saleemul Huq, Johanna Nalau, Jean P. Palutikof & Cynthia Rosenzweig, *Interactions Between Two Existential Threats: COVID-19 and Climate Change*, 38 CLIMATE RISK MGMT. 34 (2021); Mike Hulme, Rolf Lidskog, James M. White & Adam Standring, *Social Scientific Knowledge in Times of Crisis: What Climate Change Can Learn from Coronavirus (and Vice*

citizens, underserved communities, and developing nations.¹⁵ Neither the coronavirus nor greenhouse gas (GHG) emissions respect political borders, instead moving seamlessly and invisibly across states and nations. Climate change and COVID-19 are also inextricably linked—climate change increases the spread and risk of vector-borne disease, thus increasing the likelihood of future pandemics.¹⁶

It is also increasingly clear that both crises are security threats—albeit nontraditional, novel threats.¹⁷ Tragically, COVID-19 and its many variants have killed over fourteen million people to date.¹⁸ In turn, climate change and pandemic responses are challenging traditional conceptions of what constitutes “national security” and “human security.”¹⁹ This is forcing the United States and international institutions to reflect on whether we have the legal infrastructure, response models, and resources in place to adequately address these novel threats.²⁰

To reinforce this security linkage, there is a growing understanding that the military will be called upon to respond to both pandemics and climate-exacerbated natural disasters. The U.S. COVID-19 response has resulted in one of the largest domestic military operations in U.S. history.²¹ Federal military forces and state National Guard forces have played an outsized role throughout the COVID-19 response, staffing hospitals, schools, and clinics throughout the country.²² As the

Versa), WILEY INTERDISC. REV. CLIMATE CHANGE, July–Aug. 2020, at 1.

15. Ebi et al., *supra* note 14, at 2 (highlighting the “inequities of impact”).

16. See U.S. GLOB. CHANGE RSCH. PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II: IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES 616 (2018) [hereinafter *NCA 2018*], https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf [<https://perma.cc/3LTC-MXLK>] (describing climate change’s role in exacerbating vector-borne diseases such as Zika and the West Nile virus).

17. For an argument describing the convergence of national security and environmental law, see Mark Patrick Nevitt, *On Environmental Law, Climate Change & National Security Law*, 44 HARV. ENV’T L. REV. 321 (2020) [hereinafter *On Environmental Law*]. See also Oona A. Hathaway, *COVID-19 Shows How the U.S. Got National Security Wrong*, JUST SEC. (Apr. 7, 2020), <https://www.justsecurity.org/69563/covid-19-shows-how-the-u-s-got-national-security-wrong/> [<https://perma.cc/Z3U6-4USK>] (arguing that we should broaden the security lens to include pandemics, other public health threats, and climate change).

18. *14.9 Million Excess Deaths Associated with the COVID-19 Pandemic in 2020 and 2021*, WORLD HEALTH ORG. (May 5, 2022), <https://www.who.int/news/item/05-05-2022-14.9-million-excess-deaths-were-associated-with-the-covid-19-pandemic-in-2020-and-2021> [<https://perma.cc/V6ZN-TKkk>].

19. For a discussion of the difference between human security and national security, see Maryam Jamshidi, *The Climate Change Crisis Is a Human Security, Not a National Security Issue*, 93 S. CAL. L. REV. (POSTSCRIPT) 36, 39–44 (2019) (arguing that climate change should be conceptualized as a human security, not a national security matter).

20. See Hathaway, *supra* note 17.

21. Cf. Kai Ruggeri et al., *Role of Military Forces in the New York Response to COVID-19*, JAMA HEALTH F. (Aug. 5, 2022), <https://jamanetwork.com/journals/jama-health-forum/fullarticle/2794833> [<https://perma.cc/X73T-GHDS>] (detailing the New York National Guard’s role in the COVID-19 response).

22. See *National Guard Deployment Extended to Support COVID-19 Response*, FED. EMERGENCY MGMT. AGENCY (Jan. 26, 2022), [hereinafter *FEMA Fact Sheet*], <https://www.fema.gov/fact-sheet/national-guard-deployment-extended-support-covid-19-response> [<https://perma.cc/6RK6-SWC2>].

COVID-19 pandemic response continues apace, the military—led by the National Guard deploying under novel legal authorities—is under enormous pressure to respond to the pandemic in remarkably diverse capacities. This new model offers a window into our climate destabilized future. Climate-exacerbated extreme weather events—such as wildfires, hurricanes, and other natural disasters—are harming people and property in greater numbers.²³ Absent a massive increase in resources for state and local responders, the National Guard will be called upon to assist with disaster response.²⁴

The COVID-19 crisis response thus offers an extraordinary opportunity to gain powerful, actionable insights to help address the climate crisis. This is particularly important as we enter a critical decade for climate action.²⁵ While we are still on the heels of a pandemic, the window to take transformational climate action and reduce emissions is shrinking.²⁶ This Article adds to the emerging law and interdisciplinary literature addressing climate change’s security implications with three novel contributions.

First, I argue that the international COVID-19 response provides a cautionary tale, focusing on the U.N. Security Council’s muted role throughout the COVID-19 pandemic. In doing so, I analyze the Security Council’s inability to build off its Ebola global health response and its failure to recognize COVID-19 as a threat to international peace and security.²⁷ The Security Council’s limited role in the

23. Victor B. Flatt, *Domestic Disaster Preparedness and Response*, in *THE LAW OF ADAPTATION TO CLIMATE CHANGE: U.S. AND INTERNATIONAL ASPECTS* 481, 481–82 (Michael B. Gerrard & Katrina Fischer Kuh eds., 2012).

24. For “Title 10” federal military forces, this is referred to as “Defense Support of Civil Authorities.” See DEP’T OF DEF., DIRECTIVE 3025.18, DEFENSE SUPPORT OF CIVIL AUTHORITIES (DSCA) 17–18 (2018), <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/302518p.pdf> [<https://perma.cc/HYM3-W6TL>] (defining “defense support of civil authorities”).

25. Failure to massively reduce GHG emissions will result in irreversible and catastrophic harm as we are massively off-track to meet GHG emissions targets. This is often referred to as the “emissions gap.” See Anne Olhoff, John Christensen, Joeri Rogelj, Maarten Kappelle & Jian Liu, *Emissions Gap*, in *UNITED IN SCIENCE 2021* (2021) [hereinafter *UNITED 2021*], https://library.wmo.int/doc_num.php?explnum_id=10794 [<https://perma.cc/R8WL-CBH8>]; Myles Allen et al., *Summary for Policymakers*, in *GLOBAL WARMING OF 1.5° C 3, 6* (Valérie Masson-Delmotte et al. eds.,) [hereinafter *IPCC 1.5 REPORT*], https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf [<https://perma.cc/8WWR-EXTT>] (describing how GHG emissions stay in the atmosphere for decades). Leading scientists have called for “transformational action” this decade to address climate change. Anne Olhoff, John Christensen, Maarten Kappelle & Jian Liu, *Emissions Gap*, in *UNITED IN SCIENCE 2020* 18, 18 (World Meteorological Org. e.d., 2020) [hereinafter *UNITED 2020*], https://library.wmo.int/doc_num.php?explnum_id=10361 [<https://perma.cc/P4HL-TTGL>]. Professor Cary Coglianese has argued that climate response requires normative change. See Cary Coglianese, *Climate Change Necessitates Normative Change*, REG. REV. (Jan. 27, 2020), <https://www.theregreview.org/2020/01/27/coglianese-climate-change-necessitates-normative-change/> [<https://perma.cc/5966-X4CG>].

26. *UNITED 2021*, *supra* note 25; see also Sara C. Bronin, Essay, *What the Pandemic Can Teach Climate Attorneys*, 72 STAN. L. REV. ONLINE 155, 155 (2020).

27. See U.N. Charter art. 39; Rick Gladstone, *U.N. Security Council ‘Missing in Action’ in Coronavirus Fight*, N.Y. TIMES (Nov. 11, 2021),

international COVID-19 response suggests that future, binding Council action on climate security is far from ensured.

Second, I argue that the COVID-19 domestic military response provides a new, validated legal model for large-scale domestic military deployments. This should serve as a template for large-scale disaster response.²⁸ To be sure, an increased role for the military in disaster response raises civil liberties concerns that must be squarely addressed. But reliance on *state*-controlled National Guards largely sidesteps the weighty legal and policy concerns long associated with standing armies and *federal* military forces operating on American soil.²⁹

Third, I argue that opening the security aperture to encompass—even embrace—nontraditional security threats raises normative questions for both resource management and national security governance. This raises further questions that strike at the heart of our national security legal architecture. In light of the commonalities between both crises, what insights from the COVID-19 response can be applied to the climate crisis?³⁰ Are U.S. national security laws and policies set up in a manner to address nontraditional threats such as climate change?

This Article addresses these questions, and others, proceeding in four parts. In Part I, I analyze the emerging health and climate security literature, showcasing the direct and indirect relationship between COVID-19 and climate change.³¹ Part II analyzes insights gleaned from the international COVID-19 response, with an emphasis on the Security Council’s role. Part III analyzes insights emerging from the domestic COVID-19 response, highlighting the outsized role that the military—specifically the state-based National Guard—has played in tackling a wide variety of missions throughout the crisis. In Part IV, I analyze COVID-19’s broader, normative implications for security governance. Here, I argue for a more consequence-based approach to national and human security. While the National Guard is by no means a savior, the COVID-19 domestic deployment model fits within this consequence-based approach. This also reflects the reality of resource

<https://www.nytimes.com/2020/04/02/world/americas/coronavirus-united-nations-guterres.html> [<https://perma.cc/DC2F-FR5N>].

28. See *FEMA Fact Sheet*, *supra* note 22, at 1–2 (showcasing the many benefits of this deployment model, to include “mobiliz[ing] in-state resources using all possible authorities and mechanisms”); Daniel Farber, A Tale of Two Crises: COVID-19, Climate Change, and Crisis Response (Jan. 18, 2021) (unpublished manuscript) (on file with SSRN), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3767579 [<https://perma.cc/L9YB-8F6J>].

29. Stephen I. Vladeck, Note, *Emergency Power and the Militia Acts*, 114 YALE L.J. 149, 156 (2004) (noting that at the time of the nation’s founding “it was commonly believed that a strong national army would pose a dangerous and potentially insurmountable threat to the autonomy . . . of the states” (emphasis omitted)).

30. For an outstanding discussion of the linkage between COVID-19 and climate, see ALICE C. HILL, *THE FIGHT FOR CLIMATE AFTER COVID-19* (2021); see also Carolina Arlota, *The United States Climate Change Policies and COVID-19: Poisoning the Cure*, 41 PACE L. REV. 94 (2021).

31. This will only lead to future climate destabilization and an uptick in disaster response. It also reinforces the “super wicked” nature of the climate problem. See Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159–60 (2009).

constraints for emergency response at the state and local level while offering a new model for disaster relief operations. I conclude by arguing that we must operationalize these COVID-19 insights to ensure we have legal infrastructure and resources in place to meet our climate-destabilized future.

I. THE HEALTH SECURITY AND CLIMATE SECURITY NEXUS

This Part analyzes the interdisciplinary securitization literature and the relationship between pandemic and climate responses. Troublingly, the COVID-19 experience showcases the “stickiness” of GHG emissions and the depths of the climate mitigation challenge before us.³² Our collective carbon addiction appears deeply integrated and baked into our society, economy, and systems. In turn, climate-driven disasters and extreme weather are poised to increase in size and frequency.

A. Defining Health Security and Climate Security

“Global public health security is defined as the activities required, both proactive and reactive, to minimize the danger and impact of acute public health events that endanger people’s health across geographical regions and international boundaries.”³³ Within the United States, the National Biodefense Strategy describes health security as “taking care of the American people in the face of biological threats to our homeland and to our interests abroad.”³⁴

32. They are also elastic: after a dramatic drop in GHG emissions at the beginning of the coronavirus crisis, global emissions later rebounded to within five percent of 2019 levels. Antonio Guterres, *Foreword* to UNITED IN SCIENCE, *supra* note 25; see also DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY (Supp. 2022). Climate change has been described as a “super wicked” problem in legal, science, and policy literature. *E.g.*, Kelly Levin, Benjamin Cashore, Steven Bernstein & Graeme Auld, *Overcoming the Tragedy of Super Wicked Problems: Constraining Our Future Selves to Ameliorate Global Climate Change*, 45 POL’Y SCIS. 123, 127 (2012); Lazarus, *supra* note 31, at 1153 (“[Climate change] imposes costs on the short term for the realization of benefits many decades and sometimes centuries later.”).

33. *Health Security*, WORLD HEALTH ORG., <https://www.who.int/health-topics/health-security> [<https://perma.cc/2HTN-QBWV>]. See Gigi Gronvall, Crystal Boddie, Rickard Knutsson & Michelle Colby, Commentary, *One Health Security: An Important Component of the Global Health Security Agenda*, 12 BIOSECURITY & BIOTERRORISM: BIODEFENSE STRATEGY, PRAC. & SCI. 221 (2014). The U.S. Department of Defense does not define “health security” but it does define “health threat” broadly as “[a] composite of ongoing or potential enemy actions; adverse environmental, occupational, and geographic and meteorological conditions; endemic diseases; and employment of chemical, biological, radiological, and nuclear weapons . . . that have the potential to affect the short- or long-term health (including psychological impact) of personnel.” DEP’T OF DEF., JOINT PUBL’N 1-02, DEPARTMENT OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS 102 (2016) [hereinafter DoD DICTIONARY].

34. DEP’T OF DEF., DEP’T OF HEALTH & HUM. SERVS., DEP’T OF HOMELAND SEC. & DEP’T OF AGRIC., NATIONAL BIODEFENSE STRATEGY, at i (2018) [hereinafter BIODEFENSE STRATEGY]. It continues, “[t]he significant infectious disease outbreaks of recent decades, including Severe Acute Respiratory Syndrome (SARS), pandemic influenza, Ebola virus disease, and Zika virus

In recent federal legislation, Congress defined “climate security” broadly to encompass:

[T]he effects of climate change on the following: (A) The national security of the United States, including national security infrastructure[;] (B) Subnational, national, and regional political stability[;] (C) The security of allies and partners of the United States[;] (D) Ongoing or potential political violence, including unrest, rioting, guerilla warfare, insurgency, terrorism, rebellion, revolution, civil war, and interstate war.³⁵

Outside of this statutory definition, climate security is conceptualized by scholars and policymakers via the lens of climate change’s risks and impacts.³⁶ This encompasses both a human security and national security component. Climate-related disasters, national security, and human security interact with each other in complex ways. For example, human security risks can “spill over into higher-order security risks, such as political instability, conflict, major natural disasters involving significant military and humanitarian responses, mass displacements of peoples, and threats to critical resources and infrastructure.”³⁷ Closer to home, climate change impacts military and defense infrastructure, resources, readiness, and military operations.³⁸ Internationally, climate risks include geopolitical impacts such as regional and interstate tensions and conflicts.³⁹

Some scholars have criticized the securitization of climate.⁴⁰ Professor Aziz Rana, for example, has argued that the definition of security has drifted substantially since the Second World War. This has harmed transparency, political accountability, and has led to further politicization.⁴¹ In contrast, Professor Oona Hathaway has argued

disease, have revealed the extent to which individual countries and international communities need to improve their preparedness and biosurveillance systems to detect and respond to the next health crisis.” *Id.*

35. 50 U.S.C. § 3060(f)(1)(A)–(D) (2018). This legislation established the Climate Security Advisory Council. *Id.* § 3060(a).

36. *E.g.*, *Climate Security Report*, *supra* note 9, at 7–8.

37. *Id.* at 19.

38. See Sherri Goodman & Tom Middendorp, *Foreword to Climate Security Report*, *supra* note 9, at 4 (summarizing the climate security report with remarks by Hon. Sherri Goodman and General (ret.) Tom Middendorp); see also FEMKE REMMITS, ELISABETH DICK & MICHEL RADEMAKER, THE HAGUE CTR. FOR STRATEGIC STUD., CLIMATE SECURITY ASSESSMENT: A METHODOLOGY AND ASSESSMENT OF THE NEXUS BETWEEN CLIMATE HAZARDS AND SECURITY OF NATIONS AND REGIONS (2020), <https://hcss.nl/wp-content/uploads/2021/01/Climate-Security-Assessment-March-2021.pdf> [<https://perma.cc/R5X8-2RSD>].

39. *Climate Security Report*, *supra* note 9, at 44–53.

40. *E.g.*, Cinnamon Carlarne, *Risky Business: The Ups and Downs of Mixing Economics, Security, and Climate Change*, 10 MELBOURNE J. INT’L L. 439, 457–67 (2009) (arguing that the restrictive nature of international law “bodes poorly for joint efforts to use international law to address questions of climate security”).

41. See Aziz Rana, *Who Decides on Security?*, 44 CONN. L. REV. 1417, 1425–26 (2012); see also J. Benton Heath, *Making Sense of Security*, 116 AM. J. INT’L L. 289 (2022); Laura K. Donohue, *The Limits of National Security*, 48 AM. CRIM. L. REV. 1573, 1577–87 (2011)

for a broader conceptualization of national security, arguing that “we should broaden the lens of national security to think about all serious global threats to human life.”⁴² Others have lamented that embracing national security and war rhetoric can exclude the public and harm governmental transparency.⁴³ Regardless of the ongoing scholarly debate about climate security’s normative implications—a subject that I address more fully in Part IV—climate impacts are poised to increase dramatically.⁴⁴ Indeed, climate attribution science advances make it increasingly hard to dismiss climate change’s role in extreme weather, and its disproportionate impact on poorer nations and communities.⁴⁵

B. COVID-19 Takeaways: Mitigation and Adaptation Efforts Must Be Accelerated

1. Climate Mitigation: Temporary Reductions, Long-Term Impacts

Climate mitigation progress will have an outsized impact on the scope and scale of future disasters. At the pandemic’s outset, a global economic slowdown led to an unexpected and dramatic reduction in global emissions.⁴⁶ Economic growth stalled, travel plummeted, and consumption decreased dramatically. Pedestrian and bike travel skyrocketed.⁴⁷ Workers telecommuted. In many cities, air quality improved dramatically, and wildlife returned to urban areas previously saturated by human activity. By one estimate, global GHG emissions plunged 17% at the pandemic’s

(describing the inherent difficulties in defining “national security”). Under U.S. military doctrine, “national security” is focused on traditional security threats. National security is

[a] collective term encompassing both national defense and foreign relations of the United States with the purpose of gaining: a. [a] military or defense advantage over any foreign nation or group of nations; b. [a] favorable foreign relations position; or c. [a] defense posture capable of successfully resisting hostile or destructive action from within or without, overt or covert.

DoD DICTIONARY, *supra* note 33, at 162.

42. Hathaway, *supra* note 17 (arguing that “the fundamental goal of a national security program should be to protect American lives”). By some estimates, by the end of the century climate change could be the cause of “4.6 million excess yearly deaths.” R. Daniel Bressler, *The Mortality Cost of Carbon*, 12 NATURE COMM’NS 2, 5 (2021).

43. Lisa Grow Sun & RonNell Andersen Jones, *Disaggregating Disasters*, 60 UCLA L. REV. 884, 917–18 (2013).

44. UNITED 2021, *supra* note 25.

45. See Michael Burger, Jessica Wentz & Radley Horton, *The Law and Science of Climate Attribution*, 45 COLUM. J. ENV’T L. 57 (2020).

46. Corinne Le Quééré et al., *Temporary Reduction in Daily Global CO₂ Emissions During the COVID-19 Forced Confinement*, 10 NATURE CLIMATE CHANGE 647, 652 (2020).

47. See Bronin, *supra* note 26, at 156. Professor Marshall Burke at Stanford estimates that just two months of reduced pollution in China “saved the lives of 4,000 kids under 5 and 73,000 adults over 70.” Marshall Burke, *COVID-19 Reduces Economic Activity, Which Reduces Pollution, Which Saves Lives*, G-FEED (Mar. 8, 2020, 11:21 PM), <http://www.g-feed.com/2020/03/covid-19-reduces-economic-activity.html> [<https://perma.cc/739N-L93V>].

onset.⁴⁸ Overall, global GHG emissions dropped 4.2% in 2020—a welcome respite from decades of unabated emissions growth.⁴⁹

Yet this emissions drop proved to be ephemeral, demonstrating the “stickiness” of our collective carbon addiction. U.S. and global emissions quickly jumped back to pre-COVID levels in 2021 and grew even more in 2022.⁵⁰ Today, GHG levels are at their highest level in human history.⁵¹

Because GHG emissions stay in the atmosphere for years—even decades—any delay in reducing emissions imposes what I call a “climate opportunity cost.”⁵² Like a large, unpaid debt held at a usurious rate, this bill eventually comes due in the form of extreme weather, massive wildfires, and sea level rise. In 2019, the UN Environmental Programme estimated that global GHG emissions must decline by 7.6% *each year* this decade just for us to have a chance of keeping the earth’s temperature below the Paris Climate Agreement’s goal of 1.5 degrees Celsius (2.7 degrees Fahrenheit).⁵³ Despite the pandemic, we are far off-track to meet these reductions.

Indeed, what is remarkable is not how much COVID-19 caused global emissions to drop, but how quickly global emissions levels normalized. This highlights that broader structural and systemic change within our economy and society is needed to avoid climate disaster.⁵⁴ This will require the full operationalization of net-zero pledges through the transformation of entire industrial sectors and greatly

48. Andrew Freeman & Chris Mooney, *Earth’s Carbon Dioxide Levels Hit Record High, Despite Coronavirus-related Emissions Drop*, WASH. POST (June 4, 2020, 8:00 AM), <https://www.washingtonpost.com/weather/2020/06/04/carbon-dioxide-record-2020/> [<https://perma.cc/V8HM-YLNG>].

49. Le Quéré et al., *supra* note 46, at 651.

50. Pierre Friedlingstein, et al., *Global Carbon Budget 2022*, 14 *Earth Sys. Sci. Data*, 4811 (2022); Alfredo Rivera, Kate Larsen, Hannah Pitt & Shweta Movalia, *Preliminary US Greenhouse Gas Emissions Estimates for 2021*, RHODIUM GROUP (Jan. 10, 2022), <https://rthg.com/research/preliminary-us-emissions-2021/> [<https://perma.cc/6TNT-SSDB>]; see also *Global CO2 Emissions Rose Less Than Initially Feared in 2022*, IEA (Mar. 2, 2023), <https://www.iea.org/news/global-co2-emissions-rose-less-than-initially-feared-in-2022-as-clean-energy-growth-offset-much-of-the-impact-of-greater-coal-and-oil-use> [<https://perma.cc/T4NQ-VF3D>] (stating that “[g]lobal energy-related [carbon] emissions grew in 2022 . . . reaching a new high . . .”).

51. Freeman & Mooney, *supra* note 48. For a pre-COVID view of GHG emissions, see M. Willeit, A. Ganopolski, R. Calov & V. Brovkin, *Mid-Pleistocene Transition in Glacial Cycles Explained by Declining CO₂ and Regolith Removal*, *SCI. ADVANCES* (Apr. 3, 2019), <https://advances.sciencemag.org/content/5/4/eaav7337> [<https://perma.cc/P9HS-YKM4>].

52. IPCC 1.5 Report, *supra* note 25, at 6 (describing how GHG emissions stay in the atmosphere for decades).

53. UNITED 2020, *supra* note 25, at 18 (emphasis added); see also *Emissions Gap Report 2019*, UN ENV’T PROGRAMME (Nov. 26, 2019) https://www.unep.org/resources/emissions-gap-report-2019?_ga=2.196104233.42586949.1676049805-1749043965.1676049805 [<https://perma.cc/LJU6-WEJB>].

54. By some scientific estimates, one mitigation pathway estimates that the world may reach four degrees Celsius by the end of this century. For a discussion of these climate impacts of such a scenario, see J.B. Ruhl & Robin Kundis Craig, *4°C*, 106 *MINN. L. REV.* 191 (2021); Paris Agreement art. 2(1)(a), Dec. 12, 2015, T.I.A.S. No. 16-1104 [hereinafter Paris Agreement].

accelerating decarbonization efforts.⁵⁵ In *West Virginia v. EPA*, the Supreme Court struck down major elements of the administration’s Clean Power Plan, holding that the EPA exceeded its authority under the major questions doctrine.⁵⁶

With its issuance of the *United in Science 2020* and *2021* reports, the World Meteorological Organization (WMO) reinforced the depths of the climate mitigation challenge and the minuscule role that COVID-19 played in reducing long-term emissions.⁵⁷ It found that the COVID-19 pandemic “will not have significant impact on the longer-term climate mitigation challenge, unless the health crises is used for reflection, and the many stimulus and recovery initiatives are used to ‘build back better.’”⁵⁸ In 2021, the WMO followed up with *United in Science 2021*, with a statement from UN Secretary-General summarizing its findings: “Unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C will be impossible, with catastrophic consequences for people and the planet on which we depend.”⁵⁹

In sum, our COVID-19 response reveals the difficult road ahead for future global climate mitigation progress. Reliance on fossil fuels is already deeply integrated into our infrastructure, built environment, and economy.⁶⁰ Bolder and more ambitious mitigation efforts are required to avert climate disaster.

2. Health and Climate Adaptation: Inequitable Disaster Impacts

Climate change-driven extreme heat will also result in an increase in hundreds of deaths every year in the United States and around the world—a point reinforced in the Fourth National Climate Assessment.⁶¹ These health impacts are shouldered by the most vulnerable members of the population—older adults, pregnant women, and children.⁶² Similar to COVID-19, climate change is an invisible enemy. Climate change acts as both a threat accelerant and a “catalyst for conflict” while increasing the scope and scale of extreme weather events.⁶³

55. The Clean Air Act and EPA’s regulatory authority have driven many climate mitigation efforts, but the scope of this regulatory authority was recently challenged at the Supreme Court. For a discussion of the case, see *West Virginia v. Environmental Protection Agency*, OYEZ, <https://www.oyez.org/cases/2021/20-1530> [<https://perma.cc/5T4Y-DMT3>].

56. 142 S. Ct. 2587 (2022).

57. UNITED 2020, *supra* note 25, at 5–7; UNITED 2021, *supra* note 25.

58. UNITED 2020, *supra* note 25, at 19.

59. UNITED 2021, *supra* note 25 (statement of Antonio Guterres, UN Secretary-General).

60. See, e.g., Drew DeSilver, *Renewable Energy is Growing Fast in the U.S., but Fossil Fuels Still Dominate*, PEW RESEARCH CTR., (Jan. 15, 2020) <https://www.pewresearch.org/fact-tank/2020/01/15/renewable-energy-is-growing-fast-in-the-u-s-but-fossil-fuels-still-dominate/> [<https://perma.cc/S5MF-HA3D>].

61. *NCA 2018*, *supra* note 16, at 672 (stating that “in the Northeast we can expect approximately 650 additional premature deaths per year from extreme heat by the year 2050.”).

62. *Id.* at 697.

63. See CNA MIL. ADVISORY BD., NATIONAL SECURITY AND THE ACCELERATING RISKS OF CLIMATE CHANGE (2014) [hereinafter CNA 2014].

Our collective failure to reduce GHG emissions will necessitate even greater adaptation efforts.⁶⁴ The coronavirus crisis highlighted deep issues of inequity: poorer communities and communities of color were disproportionately impacted by the coronavirus.⁶⁵ Similarly, climate impacts disproportionately harm developing nations and poorer communities.⁶⁶ Tragically, nations that contributed the fewest GHG emissions suffer the worst climate impacts.⁶⁷ Poorer nations and communities lack the resources to adapt.⁶⁸ Developed nations have comparably more adaptation resources to assist developing nations, but these efforts have fallen short.⁶⁹

The inequitable COVID-19 vaccine distribution effort offers a cautionary tale for future international climate adaptation efforts. Internationally, vaccine and personal protective equipment distribution lagged in the Global South, home to a majority of developing nations.⁷⁰ As of this writing, more than eighty percent of people residing in the United States have received at least one COVID-19 vaccine dose while just thirty-seven percent of people in Africa have received one.⁷¹

Adaptation efforts are addressed in international climate agreements, but enforcement (and funding) of adaptation commitments remains a challenge.⁷² Global adaptation is heavily reliant on voluntary financial support and technical assistance from developed nations to developing nations. For example, the Paris Climate Agreement established an Adaptation Fund and a Least Developed Country Fund, both designed to transfer adaptation resources from developed nations to developing

64. The U.S. Army just released its new Climate Strategy, defining adaptation as “[a]djustment in natural or human systems in anticipation of or response to a changing environment in a way that effectively uses beneficial opportunities or reduces negative efforts.” DEP’T OF THE ARMY, U.S. ARMY CLIMATE STRATEGY 2 (2022), https://www.army.mil/e2/downloads/rv7/about/2022_army_climate_strategy.pdf [<https://perma.cc/C3TZ-A8A9>].

65. See Romanello et al., *supra* note 1, at 1620; Sebastian Romano et al., *Trends in Racial and Ethnic Disparities in COVID-19 Hospitalizations, by Region – United States, March–December 2020*, CDC (Apr. 12, 2021), https://www.cdc.gov/mmwr/volumes/70/wr/mm7015e2.htm?s_cid=mm7015e2_w [<https://perma.cc/GE5H-JYA4>] (finding that “COVID-19 disproportionately affects racial and ethnic minority groups in the United States”).

66. Cf. Michel Sidibé, *Vaccine Inequity: Ensuring Africa is Not Left Out*, BROOKINGS (Jan. 24, 2022), <https://www.brookings.edu/blog/africa-in-focus/2022/01/24/vaccine-inequity-ensuring-africa-is-not-left-out/> [<https://perma.cc/6ZCT-CWQN>]. See Mark Nevitt, *Climate Justice and Loss and Damage in the Pakistan Flood Crisis*, LAWFARE (Sept. 2, 2022, 8:01 AM), <https://www.lawfareblog.com/climate-justice-and-loss-and-damage-pakistan-flood-crisis#> [<https://perma.cc/8UR2-PA7P>] [hereinafter *Pakistan Flood Crisis*].

67. *Pakistan Flood Crisis*, *supra* note 66.

68. *Id.*

69. *Id.*

70. Romanello et al., *supra* note 1, at 1620.

71. Josh Holder, *Tracking Coronavirus Vaccinations Around the World*, N.Y. TIMES, (Mar. 5, 2023), <https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html> [<https://perma.cc/VC6H-YXM8>].

72. E.g., Matúš Štulajter, *Problem of Enforcement of an International Law – Analysis of Law Enforcement Mechanisms of the United Nations and the World Trade Organization*, 33 J. MOD. SCI. 325, 326 (2017).

nations.⁷³ The 2021 Glasgow Climate Pact urged developed countries to double their efforts in providing climate adaptation finance to developing countries by 2025.⁷⁴ Yet these climate financing tools largely rely upon voluntary pledges without a clear enforcement mechanism.⁷⁵ While developed nations have increased their adaptation funding to developing nations in recent years, these efforts have fallen short.⁷⁶ The inequitable vaccine distribution experience is analogous to developed nations' commitment to assist developing nations in adapting to climate change. In sum, the COVID-19 vaccination response from developed nations offers a cautionary tale for future climate adaptation efforts. In light of this, climate negotiators should strengthen transparency and reporting to developing nations and consider legally binding funding commitments.

II. INTERNATIONAL COVID-19 RESPONSE: INSIGHTS FOR CLIMATE SECURITY

In this Part, I analyze international institutions' response to the COVID-19 crisis, highlighting the growing link between global health and disaster preparedness.⁷⁷ International institutions—including the World Health Organization (WHO) and U.N. Security Council—failed to build on some of their earlier efforts in the 2014 Ebola pandemic response. These international institutions largely played a backup role throughout the COVID-19 crisis. Climate progress appears heavily reliant on nations' willingness to follow the Paris Climate Agreement's reporting and adaptation funding commitments. Yet questions remain about the veracity of GHG emissions reporting and how to enforce adaptation commitments from developed nations to developing nations.

A. International Institutions: Essential for Progress on Complex Collective Action Problems

The international COVID-19 response raised fundamental questions concerning international institutions' ability to work collaboratively to address complex collective action problems.⁷⁸ To be sure, a litany of institutions—including the World

73. See Paris Agreement, *supra* note 54, arts. 7, 9.

74. For a discussion of this adaptation effort and other key elements of the Glasgow Climate Pact, see Mark Nevitt, *Key Takeaways from the Glasgow Climate Pact*, LAWFARE (Nov. 17, 2021, 10:18 AM), <https://www.lawfareblog.com/key-takeaways-glasgow-climate-pact> [<https://perma.cc/2QFX-KAAP>] [hereinafter *Glasgow Climate Pact*].

75. *Pakistan Flood Crisis*, *supra* note 66; see also Daniel Bodansky, *The Legal Character of the Paris Agreement*, 25 REV. EUR., COMPAR. & INT'L ENV'T L. 142 (2016) (discussing the enforcement of the Paris Agreement's provisions).

76. *Glasgow Climate Pact*, *supra* note 74.

77. See generally Lindsay F. Wiley, *Moving Global Health Law Upstream: A Critical Appraisal of Global Health Law as a Tool for Health Adaptation to Climate Change*, 22 GEO. INT'L ENV'T. L. REV. 439 (2010); Lindsay F. Wiley, *Healthy Planet, Healthy People: Integrating Global Health into the International Response to Climate Change*, 24 J. ENV'T. L. & LITIG. 203 (2009).

78. While the Glasgow Climate Pact was signed and did signify progress from earlier efforts, the world remains off-track to avert catastrophic climate harm and core questions about equitable adaptation and financing remain. See *supra* Section I.B.

Health Organization (WHO), International Monetary Fund, U.N. Security Council, and regional development banks—all played *some* role in the international COVID-19 response. Still, national governments largely led the pandemic response effort within their respective borders.

The WHO, for example, initially downplayed COVID-19's threat, harming the credibility of the world's leading global health organization.⁷⁹ The WHO was slow to make a pandemic declaration and did not declare a public health emergency until July 2020.⁸⁰ The WHO's International Health Regulations were fully revised in 2005 in the aftermath of the global Severe Acute Respiratory Syndrome pandemic.⁸¹ Whether a virus amounts to an "international spread" is the key determinant of whether to declare an international public health emergency.⁸² The WHO was reluctant to declare COVID-19 a public health emergency, refusing to find an international spread outside of China within the meaning of existing regulations.⁸³ This public health declaration was criticized for being an overly political decision that weighed commercial interests over international public health and safety.⁸⁴ This set the stage for finger-pointing and mistrust among nations, harming the legitimacy and efficacy of the international coronavirus response.⁸⁵ Within the United States, similar charges of science politicization were hurled at the Center for Disease Control, particularly during the Trump administration.⁸⁶

In response, the United States took the remarkable step of withdrawing funding and support from the WHO in the middle of a pandemic.⁸⁷ While the Biden

79. The extent of this politicization is still the subject of debate. For an outstanding analysis of the WHO's relationship with China and how that impacted the global response, see Selam Gebrekidan, Matt Apuzzo, Amy Qin, & Javier C. Hernández, *In Hunt for Virus Source, W.H.O. Let China Take Charge*, N.Y. TIMES, (Feb. 9, 2021), <https://www.nytimes.com/2020/11/02/world/who-china-coronavirus.html> [<https://perma.cc/5TWZ-99UV>].

80. Under the International Health Regulations, a "public health emergency of international concern" means an extraordinary event which is determined, as provided in these Regulations: (i) to constitute a public health risk to other States through the international spread of disease and (ii) to potentially require a coordinated international response." WORLD HEALTH ORG., INTERNATIONAL HEALTH REGULATIONS (2005) 9 (3d ed. 2016). For a discussion of the institutionalized concept of global health security and international public health emergencies, see J. Benton Heath, *Pandemics and other Health Emergencies*, in THE OXFORD HANDBOOK OF INTERNATIONAL LAW OF GLOBAL SECURITY 585, 593–601 (2021) (discussing the history and discretion afforded to the WHO Director-General in deciding whether to declare a public health emergency).

81. See Heath, *supra* note 80, at 603.

82. See *id.* at 597.

83. See *id.* at 597–98.

84. See Kathy Gilsinan, *How China Deceived the WHO*, ATLANTIC (Apr. 12, 2020), <https://www.theatlantic.com/politics/archive/2020/04/world-health-organization-blame-pandemic-coronavirus/609820/> [<https://perma.cc/UX36-ZAWP>].

85. See *id.*

86. For a similar argument, see Toby Bolsen & Risa Palm, *Politicization and COVID-19 Vaccine Resistance in the U.S.*, 188 PROGRESS IN MOLECULAR BIOLOGY AND TRANSLATIONAL SCI. 81 (2022).

87. See Press Statement, U.S. Department of State, Update on U.S. Withdrawal from the

administration rejoined the WHO, the United States' pivot away from the WHO mirrored the United States' move away from international climate governance throughout the Trump administration.⁸⁸ The United States announced that it intended to withdraw from the Paris Climate Accord in 2019, only to rejoin in 2021.⁸⁹

Outside the WHO, the international COVID-19 response also showcased deep fissures in U.S.-China relations—a warning sign for future climate progress (the United States and China are the world's two largest GHG emitters).⁹⁰ This acrimony does not bode well for bilateral U.S.-China climate progress, a virtual prerequisite for future international climate progress.⁹¹ Security and intelligence officials predict that as GHG emissions rise, tensions will emerge as nations argue about who bears responsibility to act and reduce GHG emissions.⁹²

Finally, the international COVID-19 response revealed deep mistrust concerning the veracity of each nation's public health reporting. Nations failed to accurately report the number of COVID-19 patients' deaths as well as the rate of viral spread within their borders.⁹³ The Paris Agreement and international climate governance is heavily dependent on accurate reporting of each nation's GHG emissions. The Paris Agreement's global stocktake is premised on information sharing and truthful reporting. Under Article 4, each nation communicates its GHG emission via a

World Health Organization (Sept. 3, 2020), <https://2017-2021.state.gov/update-on-u-s-withdrawal-from-the-world-health-organization/index.html> [<https://perma.cc/62CB-BSZS>].

88. The Trump Administration announced its withdrawal from the Paris Climate Agreement in 2017. Lisa Friedman, *Trump Serves Notice to Quit Paris Climate Agreement*, N.Y. TIMES, (Feb. 19, 2021) <https://www.nytimes.com/2019/11/04/climate/trump-paris-agreement-climate.html> [<https://perma.cc/3LX9-X8ZX>].

89. Anthony J. Blinken, *The United States Officially Rejoins the Paris Agreement*, U.S. DEP'T OF STATE (Feb. 19, 2021), <https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/> [<https://perma.cc/SJ8V-H78K>]; Friedman, *supra* note 88.

90. See, e.g., Thomas J. Christensen, *A Modern Tragedy? COVID-19 and U.S.-China Relations*, BROOKINGS (May 2020).

91. The United States and China are responsible for nearly half of all global emissions on an annualized basis. See, e.g., *Global Greenhouse Gas Emissions Data*, EPA, <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-dat> [<https://perma.cc/T225-CQE3>]. Prior to the Glasgow Climate Pact, China and the United States did, however, issue a joint declaration on climate cooperation, focusing on increased measures for methane control, decarbonization, carbon capture technology, and other initiatives. See Media Note, U.S. DEP'T OF STATE, U.S.-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s (Nov. 10, 2021), <https://www.state.gov/u-s-china-joint-glasgow-declaration-on-enhancing-climate-action-in-the-2020s/> [<https://perma.cc/BRH2-S2N5>].

92. See U.S. NAT'L INTEL. ESTIMATE, CLIMATE CHANGE AND INTERNATIONAL RESPONSES INCREASING CHALLENGES TO U.S. NATIONAL SECURITY THROUGH 2040 5 (2021) (stating that “[t]he cooperative breakthrough of the Paris Agreement may be short lived as countries struggle to reduce their emissions and blame others for not doing enough”).

93. Cf. Ernesto Londoño, *Furious Backlash in Brazil After Ministry Withholds Coronavirus Data*, N.Y. TIMES 8, (June 8, 2020), <https://www.nytimes.com/2020/06/08/world/americas/brazil-coronavirus-statistics.html> [<https://perma.cc/9KKV-DGV5>] (describing Brazilian President Jair Bolsonaro's failure to disclose coronavirus deaths).

“nationally determined contributions” process.⁹⁴ Today, it remains unclear whether the Paris Climate Accord’s oversight of the GHG reporting process is adequate. Scientists, for example, used satellite technology to estimate Russia’s methane emissions, revealing that Russia is massively underreporting its GHG emissions.⁹⁵ Public health and climate reporting are transmitted from different people and agencies within each nation’s government. Still, questions about the veracity of each nation’s coronavirus data reinforce that we must strengthen our climate reporting and auditing procedures.

B. The U.N. Security Council’s Role in the COVID-19 Crisis: Insights for Climate Security

Outside the WHO, key United Nations institutions—including the General Assembly, Economic and Social Council, and Security Council—played a supporting role throughout the international COVID-19 response. The Security Council, for example, composed of both five permanent (“P5”) and ten rotating members, has an important role in the maintenance of “international peace and security.”⁹⁶ Under the U.N. Charter, the Council possesses the authority and responsibility to maintain international peace and security.⁹⁷ P5 membership is composed of the world’s leading GHG emitters (China, the United States, Russia, the United Kingdom, and France).⁹⁸ Any Council action requires the unanimous concurrence (or abstention) of its P5 members.⁹⁹ P5 membership has remained constant since 1945—a source of continual controversy.¹⁰⁰

94. Paris Agreement, *supra* note 54, art. 4.

95. Steven Mufson, Isabelle Khurshudyan, Chris Mooney, Brady Dennis, John Muyskens & Naema Ahmed, *Russia Allows Methane Leaks at Planet’s Peril*, WASH. POST (Oct. 19, 2021), <https://www.washingtonpost.com/climate-environment/interactive/2021/russia-greenhouse-gas-emissions/> [<https://perma.cc/S3N3-HX3V>] (highlighting several studies showing that Russia vastly underreported its emissions data).

96. U.N. Charter art. 23.

97. U.N. Charter art. 24, ¶ 1 (“In order to ensure prompt and effective action by the United Nations, its Members confer on the Security Council primary responsibility for the maintenance of international peace and security, and agree that in carrying out its duties under this responsibility the Security Council acts on their behalf.”).

98. See *Global Emissions*, CTR. FOR CLIMATE & ENERGY SOLS., <https://www.c2es.org/content/international-emissions/#:~:text=China%2C%20the%20United%20States%2C%20and,the%20United%20States%20and%20Russia> [<https://perma.cc/2Y8Q-PF34>]; U.N. Charter, art. 23, ¶ 2; see also *Current Members*, U.N. SECURITY COUNCIL, <https://www.un.org/securitycouncil/content/current-members#:~:text=PERMANENT%20AND%20NON%20PERMANENT%20MEMBERS,Brazil%20> (2023) [<https://perma.cc/P3HQ-QSP6>].

99. See U.N. Charter art. 27, ¶¶ 2–3.

100. See, e.g., Shamala Kandiah Thompson, Karin Landgrin & Paul Romita, *The United Nations in Hindsight: The Long and Winding Road to Security Council Reform*, JUST SECURITY (Sept. 30, 2022), <https://www.justsecurity.org/83310/the-united-nations-in-hindsight-long-winding-road-to-security-council-reform/> [<https://perma.cc/D3ZN-99GG>].

The Security Council has enormous discretion in defining what constitutes a “threat to the peace” under Article 39 of the U.N. Charter.¹⁰¹ Making such a determination unlocks the Council’s awesome Chapter VII authorities.¹⁰² Despite the devastating human impacts of COVID-19 that threatened global security, the Security Council did not activate its Article 39 authorities.¹⁰³ The Security Council’s muted response to COVID-19 actually marked a step backward from the Council’s role in the 2014 Ebola global pandemic.¹⁰⁴ Following reports from the WHO that a more robust international response was needed, the Security Council determined that the Ebola outbreak in Africa “constitute[d] a threat to international peace and security” within Article 39’s meaning.¹⁰⁵ The Ebola global health crisis represented the first time that the Council declared a pandemic a threat to the peace.¹⁰⁶ Doing so tapped into the Council’s Chapter VII authorities under the Charter and played a role in easing the flow of logistics and humanitarian assistance to Ebola-ravaged nations.¹⁰⁷ While the international response to the Ebola crisis was far from perfect, the Council was able to overcome P5 political calculations to declare Ebola a threat to the peace. In doing so, the Council navigated the ongoing work of the WHO and other international organizations.

The Security Council finally addressed the COVID-19 crisis in a Security Council Resolution in July 2020, but this fell short of making a threat to the peace determination or binding other nations. Security Council Resolution 2532 stated that COVID-19 is “likely to endanger the maintenance of international peace and security.”¹⁰⁸ It called upon Member States to enact “a general and immediate cessation of hostilities in all situations.”¹⁰⁹ In February 2021, the Council adopted

101. U.N. Charter art. 39.

102. U.N. Charter arts. 40–42. This includes economic sanctions or even military force.

103. See Gladstone, *supra* note 27; see also J. Benton Heath, *Global Emergency Power in the Age of Ebola*, 57 HARV. INT’L L.J. 1, 1 (2016) (stating that the “expert nature of international bureaucracies fits awkwardly with the political decision making required of crisis managers . . .”). The Council has also addressed other global health challenges—to include the HIV/AIDS crisis—as far back as 2000. See S.C. Res. 1308 (July 17, 2000) (noting that “the HIV/AIDS pandemic, if unchecked, may pose a risk to stability and security”). In July 2020, the Council addressed the novel coronavirus crisis via Resolution 2532, calling for a “general and immediate cessation of hostilities” as the world responds to the novel coronavirus crisis. S.C. Res. 2532, ¶ 1 (July 1, 2020).

104. S.C. Res. 2177, ¶ 6 (Sept. 18, 2014).

105. *Id.* (calling on all Member States to take four specific actions while reserving its most potent Chapter VII authority). This included the lifting of travel restrictions, delivery of humanitarian supplies, fighting Ebola disinformation, and calling on Member States to deliver people and resources to West Africa. See *id.* ¶¶ 26, 28, 30–31. For an outstanding discussion of the global emergency powers implicated in the Ebola response, see Heath, *supra* note 103, at 1.

106. In 2000 and 2011, the Council addressed the HIV/AIDS crisis in two Security Council Resolutions but fell short in declaring HIV/AIDS a threat to the peace within the meaning of Article 39. See S.C. Res. 1308, *supra* note 103; S.C. Res. 1983 (June 7, 2011).

107. See S.C. Res. 1308, *supra* note 103.

108. See S.C. Res. 2532, *supra* note 103 (emphasis added).

109. *Id.* at ¶ 1.

Resolution 2565, calling for increased global cooperation to facilitate COVID-19 vaccine access in conflict areas.¹¹⁰

If the Council made an analogous determination for COVID-19, the Council could potentially facilitate the coordination of the global health supply chain and help resolve the inequities in vaccine distribution. At a minimum, the Council could provide a central forum and mechanism to better synchronize the global security response.¹¹¹

The Council's understated role in the COVID-19 response demonstrated that future Council engagement in addressing non-traditional threats remains far from certain.¹¹² In recent years, the Council has slowly shown a gradual willingness to address non-traditional security threats, including climate change.¹¹³ Since 2007, the Council has examined the linkage between climate change and security via several open debates and Arria-stylized forums.¹¹⁴ In 2017, the Council referenced "climate change" in a Security Council Resolution—a historic first. When addressing the deteriorating security situation in the African Lake Chad region, the Council highlighted the "adverse effects of climate change and ecological changes" in destabilizing the security situation.¹¹⁵ Shortly thereafter, the Council acknowledged climate change's destabilizing effects in the ongoing conflict in Somalia, Darfur, West Africa and the Sahel, and Mali.¹¹⁶ The Council could feasibly follow its "Ebola playbook" in declaring climate change—or one of its discrete impacts—a threat to international peace and security. Indeed, the Council seemed to be on a trajectory to do just that, but this effort failed in December 2021.¹¹⁷ Two non-permanent Council members (Ireland and Niger) co-sponsored a Resolution that would have defined

110. See S.C. Res. 2565, ¶ 9 (Feb. 26, 2021) ("Call[ing] for COVID-19 national vaccination plans to include those at a higher risk of developing severe COVID-19 symptoms and the most vulnerable, including frontline workers, older people, refugees, . . . indigenous people, migrants, persons with disabilities, detained persons, as well as people living in areas under the control of any non-state armed group.").

111. See Rob Berschinski, *What the UN Security Council Can Do on Coronavirus: A Global Goods Coordination Mechanism*, JUST SECURITY (Mar. 24, 2020), <https://www.justsecurity.org/69336/what-the-un-security-council-can-do-on-coronavirus-a-global-goods-coordination-mechanism/> [<https://perma.cc/LVR8-KGW3>].

112. See Mark Nevitt, *Is Climate Change a Threat to International Peace & Security?*, 42 MICH. J. INT'L L. 527, 550 (2021).

113. The Council, for example, was able to find some consensus in 2000 to the global HIV/AIDS pandemic. See S.C. Res. 1308, *supra* note 103; S.C. Res. 2177, *supra* note 104; see also S.C. Res. 1540, ¶ 3 (Apr. 28, 2004) (addressing weapons of mass destruction).

114. See Press Release, Security Council, Climate Change 'Biggest Threat Modern Humans Have Ever Faced', World-Renowned Naturalist Tells Security Council, Calls for Greater Global Cooperation, U.N. Press Release SC/14445 (Feb. 23, 2021).

115. S.C. Res. 2349, ¶ 26 (Mar. 31, 2017).

116. See, e.g., S.C. Res. 2408 (Mar. 27, 2018).

117. Mark Nevitt, *Is it Time to "Climatize" the Security Council?*, INT'L MILITARY COUNCIL ON CLIMATE AND SEC. (Dec. 17, 2021), <https://imccs.org/2021/12/17/is-it-time-to-climatize-the-un-security-council/> [<https://perma.cc/7DG7-DJCL>].

climate change as a threat to international peace and security under Article 39.¹¹⁸ But Russia vetoed this measure, and China abstained.¹¹⁹

After all, non-state actors and non-traditional security threats—climate, health, and environmental—will inflict enormous harm.

In sum, the Council's inability to build off its Ebola playbook and overcome political differences to coordinate the coronavirus response suggests that future Council action to address non-traditional threats is far from ensured.¹²⁰ The WHO, Security Council, and other international institutions' response to COVID-19 offer a cautionary tale for future international climate action. The failure of international institutions to respond nimbly and collaboratively to the COVID-19 crisis should serve as a wake-up call for international climate leaders and negotiators.

III. DOMESTIC PANDEMIC AND MILITARY RESPONSE: INSIGHTS FOR CLIMATE SECURITY

In what follows, I identify and analyze insights gleaned from the U.S. domestic COVID-19 response, paying particular attention to federal emergency legal authorities and the National Guard's historic role in the pandemic response. As climate-driven disasters increase in scope, scale, and frequency, these insights provide a rare, real-time opportunity to "stress-test" the National Response Framework and examine the legal authorities governing domestic disaster response.¹²¹ In light of climate change, both the Title 32 state National Guard and Title 10 federal military forces will be called upon to perform an expanding menu of disaster response missions.¹²² Which one is best suited for the response? And under what legal authorities should they deploy? The COVID-19 experience reveals an entirely new model for domestic military deployments, validating the benefits of a state-controlled, federally funded National Guard.¹²³ This has normative implications for how the U.S. chooses to respond to climate disasters and other novel security threats in the future.

118. *Id.*

119. *Id.* (describing the history of Security Council action on climate and the nature of the Resolution and the vote).

120. *See generally* S.C. Res. 2177, *supra* note 104.

121. The federal pandemic response was largely governed by the National Response Framework put in place in 2008. *See* National Response Framework, 73 Fed. Reg. 4887–88 (Jan. 28, 2008).

122. This refers to the respective title in U.S. Code that governs the military deployment. Title 32 addresses the role and organization of the National Guard, which is defined to include the Army and Air National Guard. 32 U.S.C. § 101(4), (6) (2018). Title 10 addresses the role and organization of the federal armed forces, which includes the Army, Navy, Air Force, Marine Corps, Space Force, and Coast Guard. 10 U.S.C. § 101(a)(4) (2018).

123. The Posse Comitatus Act, which restricts the military from "execut[ing] the laws" and being used in a law enforcement capacity, does not apply to the National Guard when operating under Title 32 authority. *See* 18 U.S.C. § 1385 (2018).

A. Cooperative Federalism: Challenges for Pandemic and Disaster

At COVID-19's outset, states took the lead in pandemic response in safeguarding the health and welfare of their citizens. This is consistent with states' inherent police power.¹²⁴ Independent of federal action, all fifty states declared COVID-19 a public health emergency under state law and coordinated with neighboring states on travel restrictions and business closures.¹²⁵ For example, leaders in the District of Columbia, Maryland, and Virginia coordinated a regional coronavirus response and synchronized travel restrictions.

States' prominent role in the response—particularly at the outset—was due to both the federal government's slow, initial response and a federalism model that places police powers in the hands of state and local officials.¹²⁶ Perhaps not surprisingly, states took widely divergent approaches to mask-wearing, social distancing, and other public health measures. Governor Andrew Cuomo (D-NY), for example, aggressively implemented quarantine orders and travel restrictions throughout New York.¹²⁷ In contrast, Governor Kristi Noem (R-SD) took the opposite approach, giving the green light for a 500,000-person motorcycle rally in her state in the middle of a pandemic.¹²⁸ This quickly morphed into one of the world's worst super-spreader events whose impact was felt throughout the upper Midwest.¹²⁹

These varying state COVID-19 responses amplified the strengths and weaknesses of our federalism system of government. On one hand, states can serve as pandemic "laboratories for democracy," empowering states to employ the response method of their choosing.¹³⁰ States can, in turn, learn from one another. But a lax approach in one state can have debilitating spillover effects in neighboring states.

This state and local coronavirus response mirrors the different approaches taken by state and local officials as federal climate leadership has waxed and waned in

124. It is also aligned with response plans at the national level that place primary responsibility for domestic health emergencies with states and localities. *See, e.g.*, HOMELAND SEC. COUNCIL, NATIONAL STRATEGY FOR PANDEMIC INFLUENZA 8–9 (2005).

125. *See* Benjamin Della Rocca, Samantha Fry, Masha Simonova, & Jacques Singer-Emery, *State Emergency Authorities to Address COVID-19*, LAWFARE (May 4, 2020, 3:03 PM), <https://www.lawfareblog.com/state-emergency-authorities-address-covid-19> [<https://perma.cc/RRJ2-V864>].

126. *See* U.S. CONST. amend. X. States possess police powers not held by the federal government that are critical for emergency response. *See also* Kirsten Engel, *Climate Federalism in the Time of COVID-19: Can the States "Save" American Climate Policy?*, 47 N. KY. L. REV. 115, 127 (2020).

127. N.Y. Dep't of Health, *Interim Guidance for Quarantine Restrictions on Travelers Arriving in New York State Following Out of State Travel* (Nov. 3, 2020), https://coronavirus.health.ny.gov/system/files/documents/2020/11/interm_guidance_travel_a_dvisory.pdf [<https://perma.cc/PFD2-ZLSE>].

128. *See* Brittany Shammas & Lena H. Sun, *How the Sturgis Motorcycle Rally May Have Spread Coronavirus Across the Upper Midwest*, WASH. POST (Oct. 17, 2020), <https://www.washingtonpost.com/health/2020/10/17/sturgis-rally-spread/> [<https://perma.cc/79SM-DSKW>].

129. *Id.*

130. *See* New York State Ice. Co. v. Liebmann, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

recent years.¹³¹ For example, in response to the U.S. withdrawal from the Paris Agreement, states, cities, and localities launched the “We Are Still In” campaign.¹³² This signaled to the international community that many U.S. jurisdictions intended to abide by the Paris Agreement’s commitments. In addition, some states—such as California—have bold climate change plans while other states have chosen a more hands-off approach to the climate crisis.¹³³ While states possess inherent police power to immediately respond to emergencies, the COVID-19 experience demonstrates the limitations of the localized-federalism model for large-scale pandemics and natural disasters.¹³⁴ Further, there remains an expectation that federal resources and authorities will be brought to bear to help address these new security threats—a topic that I turn to below.¹³⁵

B. Federal Emergency Authorities’ Role in Addressing COVID-19 and Climate

The United States’ COVID-19 response also revealed the role that congressionally delegated, domestic emergency authorities play in tackling non-traditional security threats. As discussed below, three emergency statutes—including the Public Health and Safety Act (PHSA), Stafford Act, and National Emergencies Act (NEA)—were activated by the President at COVID-19’s outset. All three emergencies remain in place today.¹³⁶

First, the Secretary of Health and Human Security declared a public health emergency under Section 319 of the PHSA on January 31, 2020.¹³⁷ This contains a broad provision to:

131. The largest Regional Greenhouse Gas Initiative (RGGI) is in the Northeast and has taken nascent, successful climate mitigation efforts outside of federal efforts to combat GHG emissions. See REG’L GREENHOUSE GAS INITIATIVE, <https://www.rggi.org/> [<https://perma.cc/2A9F-3K98>].

132. Indeed, in the absence of federal climate leadership, a diverse group of states, localities, tribal leaders, and corporate executives have pledged to meet the U.S. commitment to the Paris Agreement. See, e.g., Steven Mufson & Brady Dennis, *The U.S. Will Leave the Paris Climate Accord on Nov. 4. But Voters Will Decide for How Long.*, WASH. POST (Oct. 30, 2020, 10:41 AM), <https://www.washingtonpost.com/climate-environment/2020/10/30/us-paris-climate-agreement-trump-biden/> [<https://perma.cc/PL8Q-824J>].

133. *Governor Newsom Calls for Bold Action to Move Faster Toward Climate Goals*, OFF. OF GOVERNOR GAVIN NEWSOM (Jul. 22, 2022), <https://www.gov.ca.gov/2022/07/22/governor-newsom-calls-for-bold-actions-to-move-faster-toward-climate-goals/> [<https://perma.cc/EUR9-VDQ8>].

134. See, e.g., DYLAN CAIN, COVID-19 AND THE CONSTITUTION: STATE POLICE POWERS AND JUDICIAL SCRUTINY (2020).

135. See *infra* Section III.B.

136. The Defense Production Act was also employed to jumpstart the production of personal protective equipment and other health supplies. See James E. Baker, *Use the Defense Production Act to Flatten the Curve*, JUST SEC. (Mar. 20, 2020), <https://www.justsecurity.org/69275/use-the-defense-production-act-to-flatten-the-curve/> [<https://perma.cc/T2LQ-2VPE>].

137. See Public Health Service Act, Pub. L. No. 78-410, 58 Stat. 682 (1944) (codified as amended at 42 U.S.C. §§ 201–300mm-61 (2018)).

*take such action as may be appropriate to respond to the public health emergency, including making grants, providing awards for expenses, and entering into contracts and conducting and supporting investigations into the cause, treatment, or prevention of a disease or disorder . . .*¹³⁸

This public health emergency authority was used to expand telehealth procedures, facilitate medical contracting, and cut through bureaucratic processes to get people, resources, and supplies to coronavirus crisis points.¹³⁹ Second, in March 2020, the President relied on delegated authorities under the Stafford Act to declare the coronavirus an “emergency” in all fifty states, three territories, and the District of Columbia.¹⁴⁰ In doing so, both President Trump and Biden stated that the federal government has “primary responsibility” for the COVID-19 response.¹⁴¹ This acknowledgment is contrary to existing national response plans that emphasize that primary responsibility for domestic health emergencies rests with states and localities.¹⁴² These Stafford Act declarations authorize FEMA to provide financial support to states and localities via the federal Disaster Relief Fund.¹⁴³ This funding stream was also used throughout the COVID-19 response to fund National Guard deployments. These declarations and funding streams took on renewed importance as the National Guard was called on to assist in a remarkably diverse set of missions. And for the first time since the Stafford Act’s passage in 1988, a “major disaster” determination was made in response to a public health emergency.¹⁴⁴ As climate-driven disasters increase in scope and scale, the Stafford Act’s authorities—and their role in facilitating National Guard disaster response—will take on increased importance.

Third, on March 13, 2020, the President declared the coronavirus a national emergency under the NEA.¹⁴⁵ Two weeks later, President Trump authorized the

138. 42 U.S.C. § 247d(a)(2) (2018) (emphasis added).

139. See Alexandra Phelan, *Explainer: National Emergency Declarations and COVID-19*, JUST SEC. (Mar. 13, 2020), <https://www.justsecurity.org/69190/explainer-national-emergency-declarations-and-covid-19/> [<https://perma.cc/MB3V-BPU6>].

140. Proclamation No. 9994, 85 Fed. Reg. 15337 (Mar. 13, 2020).

141. *Id.*; ERICA A. LEE, BRUCE R. LINDSAY & ELIZABETH M. WEBSTER, CONGRESSIONAL RESEARCH SERVICE, *THE STAFFORD ACT EMERGENCY DECLARATION FOR COVID-19* (Mar. 13, 2020), <https://crsreports.congress.gov/product/pdf/IN/IN11251> [<https://perma.cc/2BXA-VRHE>].

142. See, e.g., HOMELAND SEC. COUNCIL, *supra* note 124, at 8–9.

143. President Carter created the Federal Emergency Management Agency (FEMA) as an independent agency via executive order in an effort to establish a comprehensive federal approach to emergency management. See Reorganization Plan No. 3 of 1978, 43 Fed. Reg. 41941 (June 19, 1979); Exec. Order No. 12,127, 3 C.F.R. (Mar. 31, 1979). The Homeland Security Act of 2002 consolidated FEMA’s functions within the newly created Department of Homeland Security (DHS) and made FEMA a subordinate agency within DHS. Homeland Security Act of 2002, Pub. L. No. 107–296, 116 Stat. 2135 (codified at 6 U.S.C. §§ 101–557).

144. The definition of “major disaster” under the Stafford Act does not specifically list “pandemics.” It does, however, list natural catastrophes, fire, floods, or explosions that “cause[] damage of sufficient severity and magnitude to warrant major disaster assistance under this chapter.” 42 U.S.C. § 5122(2) (2018).

145. Proclamation No. 9994, *supra* note 140. President Biden subsequently renewed this

secretaries of each military department to order military reservists to active duty as part of the coronavirus response.¹⁴⁶

As climate legislative paralysis continues and climate impacts increase, future presidential administrations may consider using emergency authorities to address the climate crisis.¹⁴⁷ After all, “emergency” is not clearly defined in the NEA, thus giving the president considerable discretion to declare climate change (or climate impacts) a national emergency.¹⁴⁸ Declaring a national emergency activates a master key, opening 136 distinct statutory doors peppered throughout the U.S. Code.¹⁴⁹ Some senators have already introduced legislation calling on the President to declare climate change a national emergency. While it is too early to tell if the COVID-19 emergency declaration makes a climate emergency more or less likely, the NEA has been somewhat normalized in recent years to address a diverse host of issues and non-traditional threats.¹⁵⁰

The United States’ COVID-19 emergency response also highlights the Stafford Act’s significance as a domestic military response enabler.¹⁵¹ Using Stafford Act authorities, the president may call on the military in “the immediate aftermath of an incident which may ultimately qualify” as a major disaster or emergency.¹⁵² Upon a governor’s request, these federal military forces may perform “emergency work . . .

national emergency declaration in 2021. *Notice on the Continuation of the National Emergency Concerning the Coronavirus Disease 2019 (COVID-19) Pandemic*, WHITE HOUSE (Feb. 24, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/24/notice-on-the-continuation-of-the-national-emergency-concerning-the-coronavirus-disease-2019-covid-19-pandemic/> [<https://perma.cc/MGH9-JVLQ>].

146. Exec. Order No. 13,192, 85 Fed. Reg. 18407 (Mar. 27, 2020).

147. Congress also passed the \$2 trillion Coronavirus Aid, Relief, and Economic Security (CARES) Act stimulus package. The CARES Act included provisions for both COVID and climate. Comprehensive U.S. climate legislation has proven elusive—witness the ongoing failure to pass “Build Back Better”—a legislative effort to address climate change. In addition, some members of Congress have called on the President to declare climate change a national emergency. *See* S. Con. Res. 22, 116th Cong. (2019) (“Whereas the United States Department of State, Department of Defense, and intelligence community have identified climate change as a threat to national security, and the Department of Homeland Security views climate change as a top homeland security risk.”).

148. *See* 50 U.S.C. § 1621(a); *see also* *Ctr. for Biological Diversity v. Trump*, 453 F. Supp. 3d 11, 32 (D.D.C. 2020) (stating that there are no judicially manageable standards for determining what “emergency” means).

149. HAROLD C. RELYEA, *CONG. RSCH. SERV.*, 98–505, NATIONAL EMERGENCY POWERS 3 (2007); *see also* Jackie Flynn Mogensen, *Five Things a Democratic President Could do by Declaring a National Emergency Over Climate Change*, MOTHER JONES (Mar. 8, 2019), <https://www.motherjones.com/politics/2019/03/what-democratic-president-could-do-climate-national-emergency/> [<https://perma.cc/J38D-7S8A>].

150. There are currently thirty-seven national emergencies in place as of this writing, addressing a diverse set of issues. Mark P. Nevitt, *Is Climate Change a National Emergency?*, 55 U.C. DAVIS L. REV. 591, 647–48 (2021).

151. Professor Farber has described this as the “pay me now or pay me later” precept of disaster policy. Daniel Farber, *Response and Recovery After Maria: Lessons for Disaster Law and Policy*, REVISTA JURÍDICA UPR 743, 769 (2018).

152. 42 U.S.C. § 5170b(c)(1) (2018).

essential [to] the preservation of life and property.”¹⁵³ This work can include “clearance and removal of debris and wreckage and temporary restoration of essential public facilities and services.”¹⁵⁴ This emergency work can continue for ten days until the president makes a formal major disaster or other emergency declaration.¹⁵⁵

The Stafford Act will also take on increased importance as the federal government looks to harness all resources and authorities to mitigate natural disasters *ex ante*. The COVID-19 response also represented the first time that a “major disaster” was declared under the Stafford Act to address a pandemic and the first time in U.S. history that a major disaster was declared in every single state.¹⁵⁶ With the COVID-19 pandemic now meeting the “major disaster” definition, the door has swung open for the Stafford Act to address a wide swath of climate-related disasters (e.g., floods, wildfires, and hurricanes).

To date, the federal government has largely eschewed *ex ante* emergency authorities to address climate disasters prior to hurricane and wildfire season, instead relying on the Stafford Act’s *ex post* funding authorities. The Stafford Act does, however, include a pre-disaster hazard mitigation measure. This authorizes the president to set aside up to six percent of the “aggregate amount of the grants” for pre-disaster mitigation assistance.¹⁵⁷ Yet, this represents a small amount of overall disaster relief funding. As climate risk analysis and climate modeling predict the location of future extreme weather events with greater specificity, lawmakers should build on earlier efforts to shift federal resources *ex ante* to mitigate disasters prior to striking.¹⁵⁸

In sum, these three emergency authorities have growing salience for climate change and disaster response, particularly as climate legislative paralysis continues and the GHG emissions gap grows.¹⁵⁹ Will a climate emergency be declared under the NEA? Unclear. But the Stafford Act will assuredly increase in importance, playing a critical role in the federal emergency and military response.

153. *Id.*

154. 42 U.S.C. § 5170b(c)(6)(B).

155. *Id.* § 5170b(c)(1).

156. Mark Nevitt, *Military’s Response to the Coronavirus Crisis: Top 10 Principles*, JUST SEC. (Mar. 25, 2020), <https://www.justsecurity.org/69353/militarys-response-to-the-coronavirus-crisis-top-10-principles/> [<https://perma.cc/924Q-JEGG>]; *FEMA’s Natural Disaster Preparedness and Response Efforts During the Coronavirus Pandemic*, FEMA (Jul. 24, 2020), <https://www.fema.gov/fact-sheet/femas-natural-disaster-preparedness-and-response-efforts-during-coronavirus-pandemic> [<https://perma.cc/4X5N-CHD5>].

157. 42 U.S.C. § 5133(i)(1) (2018).

158. The Disaster Recovery Reform Act is one such example of attempts to increase mitigation measures prior to a major disaster striking. Disaster Recovery Reform Act of 2018, Pub. L. No. 115–254, § 1232, 132 Stat. 3438, 3438–69.

159. See Am. Meteorological Soc’y, *Explaining Extreme Events of 2017 from a Climate Perspective*, 100 BULL. METEOROLOGICAL SOC’Y (SPECIAL SUPP.) 1 (2019). (finding that fifteen of sixteen extreme weather events were made more likely by human caused climate change); see also KERRY EMANUEL, *WHAT WE KNOW ABOUT CLIMATE CHANGE* (2d ed. 2012).

C. A New Military Model for Domestic Disaster Deployments

The United States continues to witness one of the largest deployments of both National Guard and federal military forces on U.S. soil.¹⁶⁰ At one point in 2020, 45,000 National Guard members were deployed as part of the COVID-19 response—a number on par with *all* service members deployed at that time in Iraq, Afghanistan, and Syria.¹⁶¹ As part of the nation’s COVID-19 response, the National Guard filled a critical staffing void at hospitals, vaccination sites, schools, and nursing homes.¹⁶² They are largely doing so under a new Title 32 status.¹⁶³ This legal deployment model ensures a consistent funding stream while empowering state governors with command and control of their respective Guard units. This effort is coordinated on a national basis, thus tapping into FEMA, Department of Defense, and Department of Homeland Security expertise.¹⁶⁴ In what follows, I describe and analyze the role that both Title 10 federal military forces and Title 32 National Guard forces play in disaster response. For reasons discussed below, the Title 32 deployment was favored throughout the COVID-19 response and should serve as the future template for disaster response missions.

1. Title 10, Federal Military Forces: Defense Support to Civil Authorities

Federal military forces do play an important role in the provision of emergency logistical, humanitarian services, and relief supplies domestically.¹⁶⁵ This is known as the Defense Support to Civil Authorities (DSCA) mission and is defined as:

Support provided by U.S. Federal military forces, DoD civilians, DoD contract personnel, DoD Component assets, and National Guard forces . . . in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events.¹⁶⁶

Each branch of the military has a federal (“Title 10”) military reserve component that augments the full-time active-duty component. Under the Posse Comitatus Act, federal military forces are prohibited from actively serving in a law enforcement capacity unless “expressly authorized by the Constitution or Act of Congress.”¹⁶⁷

160. As of December 7, 2021, approximately 18,000 National Guard troops were deployed under Title 32, and FEMA has obligated \$2.7 billion for the mission. *FEMA Fact Sheet*, *supra* note 22.

161. Rebecca Leber, *National Guard: Between Protests and Pandemics, No Room for Hurricane Season?*, BULL. ATOMIC SCIENTISTS (June 6, 2020), <https://thebulletin.org/2020/06/national-guard-between-protests-and-pandemics-no-room-for-hurricane-season/> [<https://perma.cc/PZ85-JQ64>].

162. *See* Jacobs, *supra* note 2.

163. 32 U.S.C. § 101.

164. *See FEMA Fact Sheet*, *supra* note 22.

165. *See generally* JOINT CHIEFS OF STAFF, JOINT PUB. 3–28, DEFENSE SUPPORT OF CIVIL AUTHORITIES (July 31, 2013).

166. *See* DEP’T OF DEF., *supra* note 24.

167. Posse Comitatus Act, 18 U.S.C. § 1385 (2018).

Unlike the state-based National Guard or Coast Guard, federal military forces are prohibited from taking a direct role in law enforcement absent an Insurrection Act invocation.¹⁶⁸ Still, humanitarian assistance, disaster response, and health services now form a core statutory mission for the military.¹⁶⁹

Outside these statutory authorities, the Department of Defense (DoD) asserts two undertheorized but increasingly relevant emergency authorities.¹⁷⁰ First, the military may protect federal property and provide essential governmental functions when local authorities are unable to do so.¹⁷¹ The second emergency authority—referred to as the Immediate Response Authority—encompasses the authority to “in response to a request for assistance from a civil authority, under imminently serious conditions . . . DoD officials may provide an immediate response . . . to save lives, prevent human suffering, or mitigate great property damage within the United States.”¹⁷² While these authorities were not invoked in the COVID-19 response, they provide additional legal support for immediate military response in the aftermath of a natural disaster.¹⁷³

2. Title 32, National Guard Response: A Critical Role in Coronavirus and Climate Response

Since the nation’s founding, longstanding fears of standing armies and the centralization of military power have animated discussions and legal authorities surrounding the military’s role in domestic affairs.¹⁷⁴ This fear is reflected in the Constitution’s text, which distinguishes the state-based militia from the federal Army and Navy.¹⁷⁵ Today’s National Guard is the “progeny of the militia that existed at

168. See 10 U.S.C. §§ 251–54 (2018); Mark P. Nevitt, *Unintended Consequences: The Posse Comitatus Act in the Modern Era*, 36 *Cardozo L. Rev.* 119, 148–52 (2014) [hereinafter *Unintended Consequences*]; see also *Posse Comitatus Act* § 1385.

169. See 10 U.S.C. § 401 (2018) (“[T]he Secretary of a military department may carry out humanitarian and civic assistance activities in conjunction with authorized military operations of the armed forces . . .”). Health services has the goal “to restore essential health services in collaboration with the state and local health authorities.” JOINT CHIEFS OF STAFF, *supra* note 165, at xii.

170. These authorities are found in a Department of Defense Directive. See DEP’T OF DEF., *supra* note 24, at 4–6.

171. 32 C.F.R. § 215.4(c)(1)(ii) (2012).

172. 32 C.F.R. § 215.4(c)(1)(i) (2010). This authority relies on “the inherent legal right of the U.S. Government—a sovereign national entity under the Federal Constitution—to insure the preservation of public order and the carrying out of governmental operations within its territorial limits, by force if necessary.” *Id.* § 215.4(c)(1); see DEP’T OF DEF., *supra* note 24, at 4.

173. These authorities fall outside the exceptions in the *Posse Comitatus Act*, a law that prevents federal military forces from taking an active role in civilian law enforcement functions. 18 U.S.C. § 1385 (2018).

174. See generally WILLIAM C. BANKS & STEPHEN DYCUS, *SOLDIERS ON THE HOME FRONT: THE DOMESTIC ROLE OF THE AMERICAN MILITARY* (2016); Vladeck, *supra* note 29.

175. Compare U.S. CONST. art. 1 § 8, cls. 12–13 (limiting funding to “raise and support Armies” to two years), with U.S. CONST. art. 1 § 8, cls. 15–16 (no such limitation on the militia).

the time of the Constitution's ratification."¹⁷⁶ Since 1933, Congress has required that all members of state National Guard units enlist in both the state National Guard and U.S. National Guard.¹⁷⁷ This "dual enlistment" requirement means that "a member of the Guard who is ordered to active duty in the federal service is thereby relieved of his or her status in the State Guard for the entire period of federal service."¹⁷⁸ Today, there are essentially three legal ways in which the National Guard can be activated and deployed.¹⁷⁹

First, under pure state active-duty status the National Guard is funded and controlled by its respective state governor.¹⁸⁰ Under state active-duty status, the soldiers and airmen are commanded by the state governor and paid with state funds.¹⁸¹ Governors can also order their respective National Guard units to provide civil support in another state. State-to-state National Guard support is operationalized through Emergency Management Assistance Compact (EMAC) agreements between states.¹⁸² Significantly, Posse Comitatus Act restrictions do not apply to National Guard troops when they are operating under either a state active duty status or a full time ("Title 32") National Guard status.¹⁸³ Historically, the National Guard has responded to domestic disasters and emergencies via state active duty response authority that is governed by state law.¹⁸⁴

Second, under Title 32 status, the Secretary of the Army or Air Force can activate National Guard troops to perform federal operational support missions following a

176. *Unintended Consequences*, *supra* note 168; *see also* 10 U.S.C. § 311(a) (2012) (current version at 10 U.S.C. § 246 (2018)) ("The militia of the United States consists of all able-bodied males at least 17 years of age and, except as provided in section 313 of title 32, under 45 years of age who are, or who have made a declaration of intention to become, citizens of the United States and of female citizens of the United States who are members of the National Guard.").

177. *Perpich v. Dep't of Def.*, 496 U.S. 334, 345 (1990).

178. *Id.* at 346; *see also* Daniel A. Farber, James Ming Chen, Robert R.M. Verchick & Lisa Grow Sun., *Who's in Charge? Federal Power to Respond to Disaster*, in *DISASTER LAW AND POLICY* 89, 98–99 (3d. ed. 2015). For a history of the militia, National Guard, and emergency law, *see generally* Vladeck, *supra* note 29.

179. FEMA is part of the Department of Homeland Security and is responsible for coordinating the federal response to disasters and emergencies. The federal response is governed by the National Response Framework, 73 Fed. Reg. 4887, 4887–88 (Jan. 22, 2008). The Department of Defense and National Guard supports this larger, whole-of-government effort.

180. State active-duty status is governed by state constitutions, statutes, and policies that vary slightly by state. For example, the Arizona constitution places the Governor as commander-in-chief of the National Guard when not in Federal service. Az. Const. art. 5, sec 3.

181. ALAN OTT, CONG. RES. SERV., IF11483, *THE NATIONAL GUARD AND THE COVID-19 PANDEMIC RESPONSE* (2021).

182. *Id.* The Compact has been ratified by Congress since 1996. Emergency Management Assistance Compact, Pub. L. No. 104-321, 110 Stat. 3877 (1996).

183. Farber et al., *supra* note 178, at 139–140; 18 U.S.C. § 1385 (2018).

184. *See* OTT, *supra* note 181. ("DoD's past practice was not to characterize a SAD mission for public health emergencies as a federal operational support mission . . ." (emphasis omitted)).

state request to do so.¹⁸⁵ This is known as deploying in either a full-time National Guard status or Title 32 status. This model has emerged as the default model throughout the COVID-19 military response.¹⁸⁶ When used domestically, this status requires an approved major disaster declaration under the Stafford Act, a resource request from the state governor, and the lesser of 500 National Guard personnel or two percent of National Guard already activated under a state active duty status.¹⁸⁷ When operating under Title 32 status, National Guard men and women are paid by the federal government, thus ensuring a steady stream of reliable funding.¹⁸⁸ They remain under the command of their respective state governor, ensuring local control.¹⁸⁹ National Guard troops operating under Title 32 state authorities also possess comparably greater legal authority than Title 10 federal military forces and can be assigned to a wide swath of missions.¹⁹⁰

Both President Trump and Biden used emergency authorities to address COVID-19, a key step in kickstarting the FEMA funding process for the National Guard.¹⁹¹ Nine days after a national emergency was declared in 2020, President Trump authorized 100% funding for full-time National Guard.¹⁹² Shortly thereafter, the Department of Defense established a new process to fast-track federal pandemic response funding for the National Guard.¹⁹³ In February 2022, over 19,000 National Guard members in forty-five states are deployed under this new model.¹⁹⁴

As COVID-19 spread rapidly across the United States, the military deployment model shifted from the first model (state active duty) to a Title 32 model (federal funding, state control).¹⁹⁵ This allows governors to retain control of their forces while tapping into federal funding.¹⁹⁶ In disaster response, state National Guard can seek

185. See 32 U.S.C. § 502(f)(2); U.S. DEP'T OF ARMY, REG. 135-200, ACTIVE DUTY FOR MISSIONS, PROJECTS, AND TRAINING FOR RESERVE COMPONENT SOLDIERS, ch. 6 (June 30, 1999).

186. 32 U.S.C. § 502(f).

187. *FEMA Fact Sheet*, *supra* note 22, at 2; 32 U.S.C. § 502(f).

188. See *FEMA Fact Sheet*, *supra* note 22, at 2.

189. CENTER FOR LAW AND MILITARY OPERATIONS, DOMESTIC OPERATIONAL LAW 62–63 (2018).

190. This is due to restrictions put in place by statute under the Posse Comitatus Act, 18 U.S.C. § 1385 (2018).

191. Proclamation No. 9994, 85 Fed. Reg. 15338 (Mar. 13, 2020). President Biden subsequently renewed these emergencies through 2023. See Press Release, The White House, Notice on the Continuation of the National Emergency Concerning the Coronavirus Disease 2019 (COVID-19) Pandemic (Feb. 10, 2023), <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/02/10/notice-on-the-continuation-of-the-national-emergency-concerning-the-coronavirus-disease-2019-covid-19-pandemic-3/> [<https://perma.cc/Y7P7-2V9A>].

192. Memorandum on Providing Federal Support for Governors' Use of the National Guard to Respond to COVID-19, 85 Fed. Reg. 16997 (Mar. 22, 2020).

193. *FEMA Fact Sheet*, *supra* note 22.

194. See Ramos, *supra* note 2.

195. *FEMA Fact Sheet*, *supra* note 22.

196. The COVID-19 response missions involved the distribution of personal protective equipment, support to contact tracing and testing, support to direct patient care, and assistance with vaccine administration. *FEMA Fact Sheet*, *supra* note 22, at 1.

interstate mutual aid from neighboring states, but this was not a valid option due to the scope and scale of the pandemic. Similarly, climate-driven extreme weather will challenge the traditional model of National Guard disaster response. As wildfires and other extreme weather grow in size and intensity, they will cross state boundaries, favoring a more national response.¹⁹⁷

President Biden renewed the COVID-19 national emergency declaration and issued a new pandemic response strategy with even broader roles and functions for the National Guard.¹⁹⁸ The strategy envisions a Guard role for clinical health care staffing, assistance with the reopening of schools, and support to federal vaccination center operations.¹⁹⁹ While Title 32 authorities were “rarely used for disaster response,” this new reliance on federally-funded, state-controlled National Guard pandemic response has been successful, and the funding was extended through until April 2022.²⁰⁰

Finally, the National Guard may be federalized to perform federal service as a component of the Title 10 U.S. Armed Forces.²⁰¹ This allows for the deployment of National Guard members to perform a variety of missions around the world. Over 160 members of the Florida National Guard were in Ukraine immediately prior to Russia’s invasion.²⁰² They were deployed under Title 10 authorities with the mission of “advising and mentoring” Ukrainian soldiers.²⁰³

Federalizing the National Guard for domestic operations opens the door for a host of legal and policy concerns. For one, National Guard “federalization” at home is done via the Insurrection Act—this can occur with or without gubernatorial consent.²⁰⁴ The Insurrection Act is rarely invoked, and doing so remains enormously controversial.²⁰⁵ Under a Title 10 status, the National Guard would deploy under the

197. *NCA 2018*, *supra* note 16, at 16–17.

198. *See generally* WHITE HOUSE, NATIONAL STRATEGY FOR THE COVID-19 RESPONSE AND PANDEMIC PREPAREDNESS (Jan. 2021), <https://www.whitehouse.gov/wp-content/uploads/2021/01/National-Strategy-for-the-COVID-19-Response-and-Pandemic-Preparedness.pdf> [<https://perma.cc/3HP5-5M8F>].

199. *See id.* at 15, 42.

200. FEMA FACT SHEET, *supra* note 22, at 1 (“Federal funding for the National Guard to support the whole-of-America response to COVID-19 has been extended under Title 32 to April 1, 2022.”).

201. *See* U.S. CONST. art. I, § 8, cl. 15.

202. David J. Neal, *U.S. Moves Florida National Guard Troops Out of Ukraine*, *Pentagon Says*, MIA. HERALD (Feb. 12, 2022), <https://www.miamiherald.com/news/nation-world/world/article258330108.html> [<https://perma.cc/UC6L-LRNZ>].

203. *Id.*; Howard Altman, *Florida National Guard Troops Ordered out of Ukraine by SECDEF*, MILITARYTIMES, (Feb. 12, 2022), <https://www.militarytimes.com/flashpoints/2022/02/12/florida-national-guard-troops-ordered-out-of-ukraine-by-secdef/> [<https://perma.cc/D9YQ-RVNK>].

204. *See* 10 U.S.C. §§ 251–254 (2018).

205. The Insurrection Act was last invoked in the aftermath of the Los Angeles riots in 1992. *See* Proclamation No. 6427, 57 Fed. Reg. 19359 (May 5, 1992). In 1957 President Eisenhower ordered active-duty Army troops from the 101st Airborne Division into Little Rock, Arkansas, and federalized the entire Arkansas National Guard to enforce a court order ending segregation. This became a critical moment in the civil rights moment. *See* CHARLES DOYLE & JENNIFER K. ELSEA, CONG. RSCH. SERV., R42659, THE POSSE COMITATUS ACT AND

funding and control of the President in her capacity as Commander in Chief.²⁰⁶ Because of longstanding fears of standing armies on American soil traced back to America's founding, enormous controversy surrounds any Insurrection Act invocation. The Insurrection Act experience heightened controversy throughout the Trump Administration when he threatened to invoke it on numerous occasions during the 2020 protests.²⁰⁷ A summary of these varied military authorities is outlined below:

RELATED MATTERS: THE USE OF THE MILITARY TO EXECUTE CIVILIAN LAW 40 (2012).

206. See 10 U.S.C. §§ 251–254.

207. See, e.g., Mark Nevitt, *The President and Domestic Deployment of the Military: Answers to 5 Key Questions*, JUST SECURITY (June 2, 2020), <https://www.justsecurity.org/70482/the-president-the-military-and-minneapolis-what-you-need-to-know/> [<https://perma.cc/UL7S-S5S2>].

Table 1: Domestic Military Response Authorities

Authority	Control	Funding	Posse Comitatus Restrictions?
National Guard: State Active Duty	Governor ²⁰⁸	State ²⁰⁹	No ²¹⁰
National Guard: Full-Time Duty “Title 32” Status	Governor ²¹¹	Federal ²¹²	No ²¹³
National Guard: Federalization	President ²¹⁴	Federal ²¹⁵	No ²¹⁶
Federal Military Forces (“Title 10”)	President ²¹⁷	Federal ²¹⁸	Yes ²¹⁹
U.S. Coast Guard	President ²²⁰	Federal ²²¹	No ²²²

208. DEP’T OF DEF., DIR. 3025.21, DEFENSE SUPPORT OF CIVIL AUTHORITIES (DSCA) 28 (2018), <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/302518p.pdf> [<https://perma.cc/XA6N-ZRU9>].

209. *Id.*

210. *See Unintended Consequences*, *supra* note 168, at 152.

211. *FEMA Fact Sheet*, *supra* note 22, at 21.

212. *Id.*

213. *See Unintended Consequences*, *supra* note 168, at 152.

214. DEP’T OF DEF., *supra* note 208.

215. Anshu Siripurapu, *A Unique Military Force: The U.S. National Guard*, COUNCIL ON FOREIGN RELATIONS (Jan. 15, 2021, 7:00 AM), <https://www.cfr.org/backgrounder/unique-military-force-us-national-guard> [<https://perma.cc/N8UJ-CY9R>].

216. The outer scope of these authorities under Title 10 remains uncertain—yet another reason to favor the COVID-19 deployment model. Some have argued that federalizing the National Guard limits its ability to carry out the full spectrum of health security missions: this includes forced vaccination, isolation, and quarantine of a civilian population. For an outstanding summary of the different legal issues associated with the National Guard aiding civilian public health professionals in a crisis, see James Balcius & Bryan A. Liang, *Public Health Law and Military Medical Assets: Legal Issues in Federalizing National Guard Personnel*, 18 ANNALS HEALTH L. 35 (2009); see also Mark Nevitt, *Domestic Military Operations and the Coronavirus Pandemic*, J. NAT’L SEC. L. & POL’Y 107, 110–112 (2020).

217. *See Unintended Consequences*, *supra* note 168, at 152.

218. *Id.*

219. 18 U.S.C. § 1385 (2018).

220. The Coast Guard is a military service that operates as part of the Department of Homeland Security. 14 U.S.C. § 103 (2018).

221. *Id.*

222. *See Unintended Consequences*, *supra* note 168, at 152.

Finally, the military's support to the COVID-19 response effort also shines light on the different legal authorities governing vaccine mandates in the military and civil society. The President has significant authority to mandate vaccination of military servicemembers under emergency use.²²³ State governors possess authority to activate the National Guard to support a wide range of missions.²²⁴ Vaccine mandates apply to both federal military forces and National Guard forces, a requirement just reinforced by a federal court.²²⁵ To highlight this distinction between military authorities and civil authorities, President Biden relied upon a 1970 OSHA emergency regulation to mandate vaccinations in the private sector—an effort that was thwarted by a recent Supreme Court ruling.²²⁶ In contrast, vaccine refusal in the military can lead to administrative discharge and court-martial.²²⁷

Civilian hospitals faced a staffing crisis exacerbated by health care workers' refusal to comply with vaccine mandates.²²⁸ This was coupled with a surge of

223. 10 U.S.C. § 1107(a)–(b) (2020).

224. 10 U.S.C. § 1107a requires informed consent prior to military members receiving vaccinations issued under an emergency use authorization (EUA). The vaccination requirement was rescinded in January 2023. Memorandum for Pentagon Leadership, from Sec'y of Def., *Rescission of August 24, 2021, and November 30, 2021 Coronavirus Disease 2019 Vaccination Requirements for Members of the Armed Forces*, (Jan. 10, 2023) <https://media.defense.gov/2023/Jan/10/2003143118/-1/-1/1/secretary-of-defense-memo-on-rescission-of-coronavirus-disease-2019-vaccination-requirements-for-members-of-the-armed-forces.pdf> [https://perma.cc/26EV-Y7PP].

225. Amy Howe, *Court Allows Department of Defense to Reassign Unvaccinated Navy SEALs*, SCOTUSBLOG (Mar. 25, 2022, 6:20 PM), <https://www.scotusblog.com/2022/03/court-allows-department-of-defense-to-reassign-unvaccinated-navy-seals/> [https://perma.cc/WZV6-8G97]. While the Oklahoma National Guard initially challenged this authority, it was ultimately upheld in federal court, and the military enjoys significantly higher vaccination rates relative to the civilian population. Jennifer Steinhauer, *The Defense Secretary Tells Republican Governors: National Guard Troops Must be Vaccinated*, N.Y. TIMES (Feb. 1, 2022), <https://www.nytimes.com/2022/02/01/us/national-guard-vaccine-mandate.html> [https://perma.cc/WG48-ZJQZ] (noting that 97% of active-duty service members have at least one dose of a coronavirus vaccine).

226. This worker vaccine mandate was overturned in the Supreme Court in January 2022. Some commentators have argued that this decision could harm future climate regulatory efforts. Nat'l Fed'n of Indep. Bus. v. OSHA 142 S. Ct. 661 (2022); see also Jonathan H. Adler, *Why the Supreme Court's Decision in NFIB v. OSHA May Be Even Worse News for Climate Regulation than You Thought*, REASON: VOLOKH CONSPIRACY (Jan. 24, 2022, 8:17 PM), <https://reason.com/volokh/2022/01/24/why-the-supreme-courts-decision-in-nfib-v-osha-may-be-even-worse-news-for-climate-regulation-than-you-thought/> [https://perma.cc/BYD9-JNXQ].

227. See Mark Nevitt, *Should the COVID-19 Vaccine be Required for the Military?*, JUST SEC. (Apr. 12, 2021), <https://www.justsecurity.org/75729/should-the-covid-19-vaccine-be-required-for-the-military/> [https://perma.cc/3TKK-VTJJ].

228. There was evidence that this was leading to staffing shortages at the beginning of the vaccine rollout. See Rebecca Robbins, Sabrina Tavernise & Sharon Otterman, *Cash, Breakfasts and Firings: An All-Out Push to Vaccinate Wary Medical Workers*, N.Y. TIMES (Jan. 28, 2021), <https://www.nytimes.com/2021/01/14/business/covid-vaccine-health-hospitals.html> [https://perma.cc/Y4ZM-U76Z].

patients that ebbed and flowed throughout the crisis. The National Guard provided just-in-time staffing to help fill this critical void. Most recently, in the face of the surging omicron variant, the state National Guards in New Hampshire, Maine, New York, and Indiana were activated to assist hospitals facing staffing shortages and a surge in infected patients.²²⁹ Indeed, the National Guard continues to fill the gaps in the health care system, assisting with staffing emergency rooms, vaccine distribution, and a myriad of other health care functions.²³⁰ The National Guard has played and will continue to play an increased role in disaster response.²³¹ The federally-funded, state-controlled National Guard response offers a potential new domestic military-deployment model for large-scale natural disasters and pandemics.

D. National Biodefense Strategy and Health Security Strategies: A Cautionary Tale for Climate Security Planning

1. Biodefense and Health Security Strategies: Implementation Failures

Two years prior to COVID-19 entering the United States, the United States issued both a new Biodefense Strategy and National Health Security Strategy.²³² Unfortunately, these executive branch strategies failed to be operationalized, and the pandemic resources were removed from the National Security Council.²³³ These failures offer a cautionary tale for several climate-security strategies recently released pursuant to an executive order.²³⁴

In December 2016, Congress passed the 2017 National Defense Authorization Act (NDAA), requiring a new biodefense strategy: “The Secretary of Defense, the Secretary of Health and Human Services, the Secretary of Homeland Security, and the Secretary of Agriculture shall jointly develop a national biodefense strategy and associated implementation plan, which shall include a review and assessment of biodefense policies, practices, programs, and initiatives.”²³⁵

In response, four agencies (Defense, Homeland Security, and Health and Human Services) jointly wrote and issued a new 2018 National Biodefense Strategy

229. See *Jacobs*, *supra* note 2.

230. See, e.g., *id.*

231. *The Role of the National Guard in Disaster Response*, VCU (May 12, 2021), <https://onlinewilder.vcu.edu/blog/national-guard-disaster-response/> [<https://perma.cc/8CX5-PUJ7>]. The Posse Comitatus Act does not apply to the U.S. Coast Guard, another organization with maritime-disaster-response expertise that is poised to play an outsized role in disaster response. 18 U.S.C. § 1385 (2018); *Jackson v. Alaska*, 572 P.2d 87, 93 (Alaska 1977); see also 14 U.S.C. § 102 (2018).

232. BIODEFENSE STRATEGY, *supra* note 34. U.S. DEP’T HEALTH & HUM. SERVICES, NATIONAL HEALTH SECURITY STRATEGY 2019-2022 9 (2019) [hereinafter HEALTH STRATEGY].

233. For a discussion of these efforts, see *Partly False Claim: Trump Fired Entire Pandemic Response Team in 2018*, REUTERS (Mar. 25, 2020), <https://www.reuters.com/article/uk-factcheck-trump-fired-pandemic-team/partly-false-claim-trump-fired-entire-pandemic-response-team-in-2018-idUSKBN21C32M> [<https://perma.cc/SJ7P-LUDR>].

234. Exec. Order No. 14,008, 3 C.F.R. § 14,008 (Jan. 27, 2021).

235. National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328, 130 Stat. 2423 (2016) (codified at 6 U.S.C. § 104).

(“Strategy”).²³⁶ This Strategy represented a new direction in protecting the nation against biological threats, broadly defined. It highlighted the federal government’s mission in a biological incident to save lives, reduce suffering, and control the spread of disease.²³⁷ It also acknowledged that in “today’s interconnected world, biological incidents have the potential to cost thousands of American lives, cause significant anxiety, and greatly impact travel and trade.”²³⁸ The Biodefense Strategy linked health security with homeland security threats, stating that “[t]he health of the American people depends on our ability to stem infectious disease outbreaks at their source, wherever and however they occur.”²³⁹

Several aspects of the strategy are worth highlighting. First, the Strategy presciently diagnosed future threats caused by naturally occurring biological threats:

Antimicrobial resistance, novel infectious diseases, and the resurgence and spread of once geographically limited infectious diseases can overwhelm response capacities and make outbreaks harder to control. An infectious disease outbreak—even in the most remote places of the world—could spread rapidly across oceans and continents, directly impacting the U.S. population and its health, security, and prosperity.²⁴⁰

In doing so, it noted that domestic action alone is inadequate to protect America’s health and security.²⁴¹ The report called for both “[m]ulti-sectoral [c]ooperation” across all levels of government and a “[m]ultidisciplinary [a]pproach” to prevent disease emergence.²⁴²

236. It seeks to “improve state, local, tribal, territorial, private sector, federal, regional, and international surveillance systems and networks to contain, control and respond to biological incidents.” GAO TESTIMONY, *infra* note 237, at 9.

237. BIODEFENSE STRATEGY, *supra* note 34, at i; *see also* CHRIS P. CURRIE & MARY DENIGAN-MACAULEY, U.S. GOV’T ACCOUNTABILITY OFF., GAO-20-483T, NATIONAL BIODEFENSE STRATEGY: OPPORTUNITIES AND CHALLENGES WITH EARLY IMPLEMENTATION (2020) [hereinafter GAO TESTIMONY]; U.S. GOV’T ACCOUNTABILITY OFF., GAO-20-273, NATIONAL BIODEFENSE STRATEGY: ADDITIONAL EFFORTS WOULD ENHANCE LIKELIHOOD OF EFFECTIVE IMPLEMENTATION (2020) [hereinafter GAO REPORT].

238. BIODEFENSE STRATEGY, *supra* note 34, at i.

239. *Id.*

Health security means taking care of the American people in the face of biological threats to our homeland and to our interests abroad. The significant infectious disease outbreaks of recent decades, including Severe Acute Respiratory Syndrome (SARS), pandemic influenza, Ebola virus disease, and Zika virus disease, have revealed the extent to which individual countries and international communities need to improve their preparedness and biosurveillance systems to detect and respond to the next health crisis.

Id.

240. *Id.* at 2.

241. *Id.*

242. *Id.* at 4.

Second, the federal government established a new mechanism that is “housed within the U.S. Department of Health and Human Services, to coordinate federal biodefense activities and assess the effectiveness with which the *National Biodefense Strategy*’s goals and objectives are being met.”²⁴³ The Assistant to the President for National Security Affairs was assigned to “serve as the lead for policy coordination and review, providing strategic input and policy oversight for federal biodefense efforts.”²⁴⁴

Third, the Strategy prescribed five goals and twelve corresponding objectives to strengthen the biodefense enterprise.²⁴⁵ For example, the Biodefense Strategy sought to “[s]trengthen global health security capacities to prevent local bioincidents from becoming epidemics”²⁴⁶ and to “[r]educ[e] the cascading effects of international biological incidents on the global economy, health, and security.”²⁴⁷

In 2019, the Department of Health and Human Services issued a new National Health Security Strategy (NHSS), describing the government’s response to extreme weather and pandemic and infectious diseases.²⁴⁸ The Health Security Strategy is aligned with the Biodefense Strategy, and acknowledges that the United States faces “diverse and evolving health security threats that have the potential to disrupt our public health and health care systems and inflict injury and loss of life on our people.”²⁴⁹

The Health Security Strategy places extreme weather, natural disasters, and pandemics in the context of health security.²⁵⁰ It also acknowledges that “extreme weather events are becoming more frequent and severe[,] . . . expos[ing] vulnerabilities within our critical health infrastructure.”²⁵¹ Extreme weather events “can overwhelm public health and medical resources[,] [d]amage or destroy health infrastructure, . . . and [damage] communities’ public health and health care systems”²⁵²

Despite these two strategies’ ambitions and their laudable goals, the Biodefense Strategy and Health Security Strategy failed to be implemented and resourced. Exacerbating matters, the U.S. government disregarded the National Security Council’s pandemic “playbook” put in place after the Ebola crisis.²⁵³ When the

243. *Id.*

244. *Id.* at 5.

245. The five goals include: “Goal 1: Enable Risk Awareness to Inform Decision-Making Across the Biodefense Enterprise . . . Goal 2: Ensure Biodefense Enterprise Capabilities to Prevent Bioincidents . . . Goal 3: Ensure Biodefense Enterprise Preparedness to Reduce the Impacts of Bioincidents . . . Goal 4: Rapidly Respond to Limit the Impacts of Bioincidents . . . [and] Goal 5: Facilitate Recovery to Restore the Community, the Economy, and the Environment after a Bioincident.” *Id.* at 6–7.

246. *Id.* at 6.

247. *Id.* at 7.

248. HEALTH STRATEGY, *supra* note 232, at 4.

249. *Id.* at 1.

250. *See id.*

251. *Id.* at 4.

252. *Id.* The NHSS estimated that “drug-resistant bacterial infections [will] kill 23,000 people and cause 2 million infections in the United States annually” *Id.* at 5.

253. In response to the 2014 Ebola and H1N1 crisis, President Obama issued a new pandemic playbook. *See* Dan Diamond & Nahal Toosi, *Trump Team Failed to Follow NSC’s*

COVID-19 crisis began, these implementation issues were first highlighted in February 2020 by the Government Accountability Office (GAO) as COVID-19 entered the United States.²⁵⁴ It stated: “[C]hallenges with planning to manage change; limited guidance and methods for analyzing capabilities; and lack of clarity about decision-making processes, roles, and responsibilities while adapting to a new enterprise-wide approach could limit the success of the Strategy’s implementation.”²⁵⁵

The GAO further noted challenges in assigning roles and responsibilities for biodefense decision-making, a lack of understanding about the interagency process, and a failure to specify decision-making principles.²⁵⁶

2. Implications for Climate Security Strategies

What do these biodefense and health security failures mean for climate security? In response to two executive orders issued in January 2021, the Department of Defense (DoD), Office of the Director of National Intelligence (ODNI), Department of Homeland Security (DHS), and National Security Council (NSC) released four separate reports highlighting climate change’s national-security impacts.²⁵⁷ In February 2022, the U.S. Army issued its own Climate Strategy, stating that “[c]limate change endangers national and economic security, and the health and well-being of the American people.”²⁵⁸

While these climate-security reports and legislative efforts mark a welcome shift in the government’s emphasis on climate change, it still remains to be seen how these plans are fully resourced and operationalized. The federal government’s failure to operationalize well-crafted pandemic plans showcased a gap between strategic plans and their implementation, resourcing, and execution. The climate-security reports, while an important first step in safeguarding the nation from climate change’s devastating impacts, must be resourced to achieve their strategic objectives and practical aims. Our health security implementation failure offers a cautionary tale for the long-term efficacy of these otherwise thoughtful and well-intentioned strategies.

IV. NORMATIVE IMPLICATIONS FOR CLIMATE RESPONSE

Both the domestic and international COVID-19 responses have normative implications for future disaster response and how the U.S. and international community address climate security challenges more broadly. International

Pandemic Playbook, POLITICO (Mar. 25, 2020, 8:00 PM), <https://www.politico.com/news/2020/03/25/trump-coronavirus-national-security-council-149285> [<https://perma.cc/7HWM-HYR5>].

254. GAO REPORT, *supra* note 237.

255. GAO TESTIMONY, *supra* note 237, at 3.

256. *Id.* at 7–8.

257. Exec. Order No. 14,008, *supra* note 234. These four reports build off the Pentagon’s recent Defense Climate Adaptation Plan (DCAP) and the Department of Homeland Security’s Climate Action Plan, both earlier issued in September 2021. Further, the 2021 Interim National Security Strategy highlighted the security threat posed by climate change.

258. U.S. ARMY, CLIMATE STRATEGY 4 (2022).

institutions will be under increasing stress to close the emissions gap. But our COVID-19 experience makes clear that the GHG emissions gap is likely to widen.²⁵⁹ We should prepare accordingly for future climate impacts. Domestically, the COVID-19 response highlighted the National Guard's critical role in the domestic health response.²⁶⁰ In doing so, it demonstrated the value of a new domestic disaster-response model.²⁶¹ The military's role as the default responder has broader implications for our national security legal infrastructure and national security resource management.

In what follows, I acknowledge the criticisms of "securitizing" health and climate change, arguing that civil liberties concerns can be mitigated by favoring the deployment of the Title 32, state-based National Guard units over Title 10, federal military forces.²⁶² In addition, crisis communications play a critical role in managing our collective response, which must be done clearly and effectively. Sadly, both climate and COVID-19 have suffered from science politicization and misinformation, harming both governmental efforts and behavioral response.²⁶³ Conceptualizing climate change as a security risk can potentially shift resources to the broader climate effort, assist in climate science messaging, and influence attitudes and behaviors.²⁶⁴

A. A New Model for the Military Domestic Disaster Response

In the aftermath of Hurricane Katrina, Professor Dan Farber presciently noted that the federal government "needs greater surge capacity" in the face of climate change.²⁶⁵ As extreme weather intensifies, the military will be called upon to respond and aid state and local governmental first responders. But *who*, exactly, should help, and under *what* legal authority should they deploy?

Climate attribution science highlights the importance of answering these questions with precision.²⁶⁶ It predicts that climate-driven extreme weather events will increase in size, intensity, and frequency due to the ever-growing GHG "emissions gap."²⁶⁷ COVID-19 reinforces the immense challenge before us in

259. UNITED 2021, *supra* note 25.

260. FEMA Fact Sheet, *supra* note 22.

261. *Id.* (highlighting that "Title 32 is rarely used for disaster response").

262. Longstanding fears of a standing army can be traced back to the Constitutional Convention and the Land and Naval Forces Clauses of the Constitution. *See, e.g.,* Vladeck, *supra* note 29, at 156–57 (noting that at the time of the nation's founding "it was commonly believed that a strong national army would pose a dangerous and potentially insurmountable threat to the autonomy of the states" (emphasis omitted)).

263. James N. Druckman, *Threats to Science: Politicization, Misinformation, and Inequalities*, 700 THE ANNALS OF THE AM. ACAD. OF POLITICAL AND SOCIAL SCI., 1 (2022).

264. *See* Sarah E. Light, *Valuing National Security: Climate Change, the Military, and Society*, 61 UCLA L. REV. 1772, 1788–89 (2014).

265. Farber, *supra* note 151, at 768.

266. *See* Burger et al., *supra* note 45, at 60–63.

267. *See* UNITED 2020, *supra* note 25, at 18 (stating that the "findings of the [UNEP Emissions Gap Reports] are sobering; despite scientific warnings, increased political and societal attention and the Paris Agreement, global emissions have continued to increase and the emissions gap is larger than ever"); Am. Meteorological Soc'y, *supra* note 159, at S2

closing that gap. Even in the unlikely event that all Paris Agreement emissions goals are met, GHG emissions “are likely to lead to substantial and widespread increases in the probability of historically unprecedented extreme events.”²⁶⁸ These climate impacts increasingly transcend state and international borders. As they become less localized, state first responders are increasingly under stress and could benefit from FEMA and the DoD assisting with the response coordination.²⁶⁹

Consider the role that climate change is playing in nationalizing harms in two areas: wildfire response and flood risk. California saw its first “gigafire” in its history in 2020 and overall, 10,000 fires burned 4.2 million acres in California—a stunning four percent of the state.²⁷⁰ Massive wildfires effectively destroyed the city of Paradise, California in 2019, killing eighty-five people.²⁷¹ The journal *Nature* recently estimated that the United States will see a nationwide twenty-six percent increase in flood risk by 2050 due to climate change.²⁷² And the real estate firm Zillow released a report that over 3.4 million existing homes in the United States, worth \$1.75 trillion, are at an increased risk of flooding by the end of this century.²⁷³

COVID-19’s Title 32 military response model offers a useful template for future domestic disaster-response missions. Consider the many benefits of adopting this model.

First, the Title 32 model ensures local military control and a steady stream of federal funding, thus allowing for operational flexibility to respond “just in time” to assist in new roles and missions as they arise. When the COVID-19 crisis began, it was unimaginable that National Guard members would teach kindergarten or drive school buses as part of their pandemic response. But that is exactly what Guardsmen and women were doing.²⁷⁴ The Title 32 model facilitated this shift in personnel, allowing Guard members to aid and assist wherever required.²⁷⁵

(finding that sixteen of seventeen extreme weather events were made more likely by human caused climate change).

268. Noah S. Diffenbaugh, Deepti Singh, & Justin S. Mankin, *Unprecedented Climate Events: Historical Changes, Aspirational Targets, and National Commitments*, 4 SCI. ADVANCES 1, 7 (2018).

269. EMERGENCY MANAGEMENT ASSISTANCE COMPACT (EMAC) I (2005).

270. CLIMATE SECURITY REPORT, *supra* note 9.

271. *California Wildfire that Killed at Least 85 People Fully Contained*, REUTERS (Nov. 25, 2018, 4:31 AM), <https://www.reuters.com/article/us-california-wildfires/california-wildfire-that-killed-at-least-85-people-fully-contained-idUSKCN1NU0A9> [<https://perma.cc/9P76-2UTQ>].

272. Oliver E. J. Wing, William Lehman, Paul D. Bates, Christopher C. Sampson, Niall Quinn, Andrew M. Smith, Jeffrey C. Neal, Jeremy R. Porter & Carolyn Kousky, *Inequitable Patterns of US Flood Risk in the Anthropocene*, 12 NATURE CLIMATE CHANGE 156, 157–59 (2022) (analyzing flood risk mapping in the face of climate projections and arguing that “[e]quity-centered reform . . . is needed for U.S. disaster policy”).

273. CLIMATE CENTRAL, OCEAN AT THE DOOR: NEW HOMES AND THE RISING SEA, (2019), <https://www.climatecentral.org/report/ocean-at-the-door-new-homes-in-harms-way-zillow-analysis-21953> [<https://perma.cc/DX55-JUP7>].

274. Amelia Nierenberg, *The National Guard Deploys to Classrooms*, N.Y. TIMES (Feb. 23, 2022), <https://www.nytimes.com/2022/02/23/us/national-guard-teaching.html> [<https://perma.cc/D93R-JBZF>].

275. The National Response Framework envisions a central role for FEMA in assisting

Second, the new model provides the respective state governor with the full spectrum of legal authorities needed to take on any mission that may arise in a disaster's aftermath. Perhaps most importantly, it permits the National Guard to assist civilian law enforcement if called upon to do so.²⁷⁶ Here, I am focused less on an additional, traditional police presence and more on the unique enforcement challenges associated with disaster response. I envision an increased capacity to assist in the enforcement of mandatory evacuation orders in the face of a wildfire or Category 5 hurricane. Alternatively, increased capacity could involve enforcing a disaster response perimeter in a wildfire's aftermath to facilitate homeowners' access to their property. The ability of law enforcement to assist in these situations should not be dismissed due to the presence of military personnel.²⁷⁷

Further, National Guard members live in the states in which they are deployed. Hence, they share closer relations with the community and have better knowledge of the area in which they serve. As an added bonus, the Title 32 model provides benefits to each deployed Guard member, including federal healthcare, GI Bill education benefits, and other federal benefits. For a force already under strain, this could serve as a powerful incentive in recruitment and retention.²⁷⁸

Third, the Title 32 model sidesteps the weighty Insurrection Act and civil liberties issues that are immediately introduced with federalizing the National Guard or deploying Title 10 federal military forces.²⁷⁹ Invoking the Insurrection Act would immediately politicize and potentially undermine a disaster response.²⁸⁰ Due to differences in training, reliance on active-duty military forces for disaster response may create greater risk of mishaps. For example, active-duty federal military forces are trained in standing rules of engagement (SROE), a more permissive, combat-centric set of rules that are difficult to apply to domestic law enforcement situations.

state and local governments in the aftermath of a natural disaster. DEP'T OF HOMELAND SEC., NATIONAL RESPONSE FRAMEWORK 1, 23–32 (4th ed. 2019).

276. This advantage is highlighted in military doctrine, which envisions that the National Guard, due to its local presence, will likely be the first military responder during a domestic emergency. See JOINT CHIEFS OF STAFF, *supra* note 165. Military doctrine also affirms that “[t]here are advantages associated with the employment of the [National Guard] . . . [m]ost notable is the ability to assist law enforcement as Posse Comitatus Act (PCA) does not apply.” *Id.* at I-6.

277. It has been argued that military personnel are not able to effectively take over the role of law enforcement in a disaster. See Michael T. Cunningham, *The Military's Involvement in Law Enforcement: The Threat Is Not What You Think*, 26 SEATTLE U. L. REV. 699, 715–16 (2003) (“Military personnel have different approaches to tactical situations than what is required in a law enforcement situation Moving military personnel between [combat and law enforcement] may cause the soldier to misread or misunderstand a situation and use the wrong kind of force.”).

278. See *FEMA Fact Sheet*, *supra* note 22 (discussing these many federal benefits, which are available after thirty days on Title 32 status).

279. See 10 U.S.C. §§ 251–54 (2020).

280. This concern arose during Hurricane Katrina, when tensions arose between President Bush and Louisiana Governor Blanco over federalizing the National Guard. President Bush was reluctant to invoke the Insurrection Act over Governor Blanco's objections. See H.R. REP. NO. 109-377, at 206–07 (2006).

In contrast, the National Guard is trained in standing rules for use of force (SRUF), a more constrained, self-defense-oriented use of force posture.²⁸¹

Finally, legal and policy questions abound about the scope and soundness of federal military forces operating on U.S. soil. In the coronavirus context, is it wise to have federalized forces enforce a quarantine²⁸² or administer a compulsory vaccination program?²⁸³ The new, validated Title 32 model offers an elegant solution that helps alleviate these grave legal and policy concerns. This model should serve as the default model for future disaster relief and response missions—particularly in large-scale disasters that cut across multiple states.

Ideally, state and local emergency responders could be better resourced to prepare for future climate challenges.²⁸⁴ Local police, fire, and other emergency personnel act as the immediate first responders following a major disaster. They are in position and have the legal authority to respond accordingly. Nevertheless, state and local first responders can become quickly overwhelmed in a disaster’s aftermath. This is particularly true in jurisdictions uniquely vulnerable to sea level rise, extreme flooding, and wildfires.

Increasingly, policymakers realize that more capacity and personnel are needed to address our climate-destabilized future. Consider the ongoing discussions surrounding the creation of new climate taskforces. The Senate—with the support of President Biden—has introduced legislation creating a new “Civilian Climate Corps.”²⁸⁵ The draft Civilian Climate Corps legislation envisions a role for mitigating the effects of climate disasters.²⁸⁶ While this legislation has languished in recent months, it nevertheless demonstrates an increased recognition that more resources are needed to address climate change’s harmful impacts. If the Civilian Climate Corps comes to fruition, their work should be integrated within the National Response Framework to supplement and assist the National Guard with disaster response.²⁸⁷ If the Climate Corps legislation ultimately fails, Congress should

281. See generally WILLIAM C. BANKS & STEPHEN DYCUS, *SOLDIERS ON THE HOME FRONT: THE DOMESTIC ROLE OF THE AMERICAN MILITARY* (2016) (discussing the steep learning curve in making the shift from rules of engagement to rules for the use of force).

282. See 10 U.S.C. § 12406 (2020). This is yet another authority to activate military service members without invoking the Insurrection Act. The outer scope of this authority remains untested.

283. For a discussion of such questions, see generally James Balcius & Bryan A. Liang, *Public Health Law & Military Medical Assets: Legal Issues in Federalizing National Guard Personnel*, 18 *ANNALS HEALTH L.* 35, 55–57 (2009).

284. For a discussion of the roles of state governments in a pandemic, see Emily Berman, *The Roles of the State and Federal Governments in a Pandemic*, 11 *J. NAT’L SEC. L. & POL’Y* 61, 62–63 (2020). For a historical view of state police powers in public health crises, see Edward P. Richards, *A Historical Review of the State Police Powers and Their Relevance to the COVID-19 Pandemic of 2020*, 11 *J. NAT’L SEC. L. & POL’Y* 83 (2020).

285. See Civilian Climate Corps for Jobs and Justice Act, S. 1244, 117th Cong. (2021).

286. See *id.* The law envisions a role for the Civilian Climate Corps in “mitigating the effects of disasters” to include recovering from disasters, clearing debris, preparing communities for disaster, and repairing and rebuilding homes and buildings. See *id.* § 199T (a)(4)–(5).

287. See S. 1244.

strongly consider increasing the size and capacity of the National Guard or Coast Guard.²⁸⁸

The COVID-19 experience suggests that the National Guard, the Coast Guard, and local first responders are being asked to do too much with too little. The Coast Guard continues to play a leading role in disaster response, rescuing over 11,000 people in Hurricanes Irma, Maria, and Harvey in 2017 alone.²⁸⁹ Climate change and domestic disasters will only increase the pressure on today's National Guard and Coast Guard, but both forces are dwarfed by the size of the Title 10 military forces.²⁹⁰

Finally, the Pentagon famously plans for the possibility of more than one conflict overseas. In the face of massive climatic change and disruption, should the Pentagon also plan for multiple natural disasters at home? Imagine a scenario where another gigafire engulfs California and a Hurricane Katrina, Sandy, or Maria storm ravages the East Coast.²⁹¹ As Professor Dan Farber points out, this is not an outlandish scenario, recently showing that doubling the chance of a major disaster actually quadruples the chances of experiencing two such events in the same time period. Lawmakers and policymakers must begin to prepare to address this new climate-destabilized reality and ask whether the Coast Guard, the National Guard, and local first responders are resourced appropriately.

B. Climate Securitization: Challenges and Opportunities

In addition to offering a new military model for domestic disaster deployments, our COVID-19 experience highlights the difficulty of addressing non-traditional security threats via our existing security legal infrastructure. The death toll of COVID-19 in the United States stands at 900,000—a shocking number that calls into question whether we should broaden our conception of what constitutes “national security” or threat to “international peace and security” under U.S. and international law.²⁹² Today's national security legal infrastructure dates from a different time. For example, the National Security Act dates from the aftermath of the Second World

288. The U.S. Coast Guard “is a unique force that carries out an array of civil and military responsibilities” under both Title 10 and Title 14. JOINT CHIEFS OF STAFF, *supra* note 165, at I-1.

289. See, e.g., Jacqueline Fledscher, *Climate Change Will Force Coast Guard to Respond to ‘More Intense’ Storms, Biden Says*, DEFENSE ONE (May 19, 2021), <https://www.defenseone.com/threats/2021/05/climate-change-will-force-coast-guard-respond-more-intense-storms-biden-says/174159/> [<https://perma.cc/PVF8-TXBK>]. This required an extra \$914 million to recover the expenses associated with the Coast Guard's response to these three hurricanes. *Id.*

290. Both the Title 10 Army (481,254 soldiers) and Navy (341,996 sailors) exceed the size of the Army National Guard (336,703 soldiers). The U.S. Coast Guard, which plays a crucial role in disaster response, is the smallest military service at 40,558 servicemembers. See *Active and Reserve U.S. Military Force Personnel Numbers in 2020, by Service Branch and Reserve Component*, STATISTA (Nov. 2021), <https://www.statista.com/statistics/232330/us-military-force-numbers-by-service-branch-and-reserve-component/> [<https://perma.cc/FK6W-BVXN>].

291. See Farber, *supra* note 151, at 768 n.164.

292. On *Environmental Law*, *supra* note 17, at 340–41 (describing how “national security” is not defined in law, but is defined within U.S. joint military doctrine); U.N. Charter art. 39.

War.²⁹³ The Goldwater-Nichols Act, establishing the modern Department of Defense, was passed during the Cold War, and the Homeland Security Act was passed in the aftermath of 9/11.²⁹⁴ While it is beyond the scope of this Article to fully address these governing laws, we should question whether the existing laws are sufficient to respond to these novel threats.

As we broaden our conception of what constitutes a security threat, we must plan for and put resources in place to competently deal with such novel threats. Doing so entails shifting resources in advance to address climate risks *ex ante*. This includes investment in climate research and the growing field of climate risk analytics.²⁹⁵

To be sure, there are bona fide concerns about “securitizing” or “militarizing” the climate crisis. This is due, in part, to the U.S. government’s record in combatting terrorism, which led to executive overreach and massive, oftentimes ineffective, expenditures.²⁹⁶ Yet the counterterrorism effort implicates individual rights and civil liberties in ways that are fundamentally different than environmental and climate security challenges. The COVID-19 crisis shows that the military will play a critical role in pandemic and disaster response, regardless of how these challenges are conceptualized.

Ideally, state and local officials would lead on disaster response, and the military would play a supporting, backup role. Yet the heavy reliance on the National Guard throughout the COVID-19 crisis demonstrated that this idealized disaster response model remains far out of reach for most communities. In the absence of an influx of resources to state and local governments, lawmakers and policymakers should consider whether we have the law, resources, and capacity to respond to our climate-destabilized future.

In light of the lessons learned from the impacts of COVID-19 on human health and life, I propose adopting a consequence-based approach to national and human security. This approach focuses on a threat’s direct and proximate effects.²⁹⁷ Internationally, this envisions a greater role for the U.N. Security Council and other regional security organizations—such as NATO—in addressing environmental harm and climate change. It also acknowledges that military resources will be called upon to address nontraditional security threats. Relying upon a more traditional, state-based (or *instrument*-based) approach may impose its own costs that overlook the

293. See National Security Act of 1947, Pub. L. No. 253, 61 Stat. 495.

294. Goldwater-Nichols Department of Defense Reorganization Act of 1986, Pub. L. No. 99-433, 100 Stat. 992, 992 (establishing the current military legal infrastructure).

295. For a similar argument, see Antonio Busalacchi & Sherri Goodman, *Why National Security Agencies Must Analyze Climate Risks*, LAWFARE (Aug. 6, 2021), <https://www.lawfareblog.com/why-national-security-agencies-must-analyze-climate-risks> [<https://perma.cc/342H-Q75K>].

296. Robert Malley & Stephen Pomper, *The Perils of Hying Pandemic Response as a National Security Issue*, JUST SEC. (May 4, 2020), <https://www.justsecurity.org/70001/the-perils-of-hying-pandemic-response-as-a-national-security-issue/> [<https://perma.cc/5Y7R-Y74G>].

297. Professor Oona Hathaway and others have argued that pandemics, climate change, and other non-traditional threats should be part of the national security paradigm. See Hathaway, *supra* note 17.

harms imposed by novel threats.²⁹⁸ After all, today's struggle to save lives threatened by the coronavirus is occurring in the hospitals and homes of the United States, not the battlefields in Afghanistan and Iraq.²⁹⁹

Integrating climate risk analysis throughout the national security infrastructure could take many forms.³⁰⁰ As advances are made in climate attribution science, we should begin to plan strategically for future climate events, with an emphasis on identifying "climate hot spots" well before extreme weather events strike. Domestically, we should embrace the best available science that informs where extreme weather is most likely to impact the United States and adjust resources accordingly. For example, the wildfire season is poised to challenge state and local resources in California in the coming decades. And climate change-driven storm surges and extreme weather increase the possibility of a "Katrina-redux" in Louisiana.³⁰¹ Lawmakers at all levels of government should consider whether local responders, such as the California National Guard and the Louisiana National Guard, have the resources they need prior to disaster striking. Climate impacts should help serve as an important criterion to guide future national security and defense expenditures.

Further, the powerful (and well-funded) Departments of Defense and Homeland Security could apply resources to invest in climate-resilient technologies and renewable energy while investing in more climate-resilient infrastructure. This has been a successful strategy and has spurred innovation in other contexts. Our own national security infrastructure is not safe from sea level rise and other climate impacts—an estimated \$100 billion worth of infrastructure at Navy bases is under threat from sea level rise under current climate trajectories.³⁰² Internationally, climate change will have a devastating impact on poorer nations—such as Yemen and countries in the African Sahel region—that suffer from drought and food

298. See generally *On Environmental Law*, *supra* note 17, at 321. For a discussion of inequitable harms for people with disabilities in disaster response, see Doron Dorfman, *Afterword: The ADA's Imagined Future*, 71 SYRACUSE L. REV. 933, 933–37 (2021).

299. Our traditional approach to national security presents its own risk, particularly the United States's hyper-focus on international terrorism in the aftermath of 9/11. See generally JOHN MUELLER, *OVERBLOWN: HOW POLITICIANS AND THE TERRORISM INDUSTRY INFLATE NATIONAL SECURITY THREATS, AND WHY WE BELIEVE THEM* (2009) (showing that the odds of being killed from a terrorist attack are microscopic). The 2017 National Security Strategy stripped any mention of climate change, in stark contrast to earlier administrations. This changed in 2021 when the Biden Administration issued an Interim National Security Strategy that once again acknowledged climate change's security impacts. "Climate" or "climate change" was mentioned nineteen times in the 2015 National Security Strategy and twenty-two times in the 2010 National Security Strategy. THE WHITE HOUSE, NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA (Feb. 2015); THE WHITE HOUSE, NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA (May 2010).

300. See, e.g., Westrate, *supra* note 10 ("The U.S. national security system is not currently designed to respond to threats such as pandemics and climate shocks. Instead of investing more in the current system, the United States needs to rethink what national security means and what is necessary to protect it.").

301. See *NCA 2018*, *supra* note 16, at 24–27 (describing climate change's role in extreme weather).

302. Busalacchi & Goodman, *supra* note 295.

insecurity.³⁰³ Why not put the resources and planning structures in place *today* so we don't have to respond to conflict hot spots and insecurity tomorrow?

Unfortunately, adopting a consequence-based approach to security will run headfirst into the military-industrial complex, a phenomenon still alive and well in the halls of the Pentagon and Congress. The military, the defense industry, and Congress still remain heavily incentivized to address traditional security threats and resource these threats accordingly.³⁰⁴ To highlight one prominent example, the massively over-budget F-35 Joint Strike Fighter is designed to combat traditional adversaries.³⁰⁵ Despite its massive price tag (\$1.1 trillion), it does little to safeguard against climate change, pandemics, and other nontraditional security threats.³⁰⁶ While it is beyond the scope of this paper to fully address the implications of the military-industrial complex, underlying incentives act as an anchor by shifting resources and attention from non-traditional security threats.

C. The Critical Role of Crisis Communications in Driving Behavioral Change

Finally, both our COVID-19 and climate response will require a rapid transformation in societal and behavioral norms.³⁰⁷ But how can we effectively communicate the urgency to reduce emissions and the underlying climate threat?³⁰⁸ It is increasingly clear that domestic and international governance solutions alone will not be enough to keep our GHG emissions below 1.5 degrees Celsius greater than pre-industrial levels.³⁰⁹ This includes “bottom-up” behavioral adaptation efforts that work in conjunction with “top-down” governance solutions.³¹⁰

303. See CNA 2014, *supra* note 63, at 13–14.

304. Mark Nevitt, *The Operational and Administrative Militaries*, 53 GA. L. REV. 905, 971 (2019) (discussing the bipartisan Joint Strike Fighter caucus in Congress).

305. See *id.*

306. See *id.* at 971–72.

307. See generally Rowell, *supra* note 12 (identifying behavioral responses triggered by the pandemic and applying these lessons to environmental law).

308. While it is beyond the scope of this Article to address this fully, several fossil fuel companies have attempted to shift attention from fossil fuel extraction to individual behavior, arguing that it is critical for everyone to reduce their individual carbon footprint. While behavioral contagion is important to halt GHG emissions, doing so is not a substitute for corporations to slow their decarbonization efforts.

309. See *supra* note 25 and accompanying text.

310. This can be driven by a change in societal norms, a topic I address in Part IV. See *supra* Part IV; see also Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231, 1245–54 (2001) (addressing the shortfalls in norms management); Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 906–07 (1996). Focusing on individualizing carbon emissions is not without controversy, however. Fossil fuel companies have historically deflected blame from their role in the climate crisis by focusing on individual responsibility. For a similar argument, see Auden Schendler, *Worrying About Your Carbon Footprint Is Exactly What Big Oil Wants You to Do*, N.Y. TIMES, (Aug. 31, 2021), <https://www.nytimes.com/2021/08/31/opinion/climate-change-carbon-neutral.html> [<https://perma.cc/KN4E-8FR7>].

1. Behavioral Contagion and Crisis Communications

Professor Katharine Hayhoe has pointed out that the coronavirus response reaffirmed that “simply communicating scientific facts is not enough to spur what science shows is the correct or rational behavior.”³¹¹ “Behavioral contagion” refers to the way that ideas, norms, and behaviors spread through the population.³¹² This encompasses fundamental change in lifestyles and consumption patterns. In the climate context, behavioral contagion is critical to reduce GHG emissions, particularly in wealthy, high per capita emitting nations such as the United States.

Our coronavirus response demonstrates once again that science can all too easily be warped and politicized. Prior to COVID-19, we lacked a concrete example to use to examine whether behavioral change at scale could take place to address climate change. Sadly, many prophylactic measures became politicized, undermining their overall effectiveness. The experts at the Centers for Disease Control, National Institute of Health, and White House made several unforced errors, providing fuel to the COVID-19 misinformation fire. In a remarkable step, a leading scientific journal criticized the Trump Administration for ignoring the consensus science on the pandemic and undermining its own Centers for Disease Control.³¹³

Similar to climate change—where scientists struggle to combat widespread politicization and climate denialism—the coronavirus pandemic response continues to suffer from politicization and misinformation.³¹⁴ Climate science remains heavily politicized in recent years, with a stubborn percentage of Americans refusing to accept the overwhelming scientific consensus that human activity causes climate change.³¹⁵ While our initial response to the coronavirus crisis demonstrated society’s

311. Sarah Kaplan, *Some Covid-19 Lessons in Fighting Climate Change*, WASH. POST (Aug. 21, 2020, 12:14 PM), <https://www.washingtonpost.com/climate-solutions/2020/08/21/questions-about-climate-change-virus/> [https://perma.cc/T8ND-DHDX]. Professor Hayhoe continued, “Climate scientists were probably the least surprised people in the world when the response to the coronavirus became politically polarized.” *Id.* The National Biodefense Strategy noted the importance of “provid[ing] timely, regular, coordinated, and consistent risk communication, including information on response and recovery procedures and personal protective measures, across a range of media for the public.” BIODEFENSE STRATEGY, *supra* note 34, at 25.

312. See, e.g., Ladd Wheeler, *Toward a Theory of Behavioral Contagion*, 73 PSYCH. REV. 179, 180 (1966); see also Meehan Crist, *What the Coronavirus Means for Climate Change*, N.Y. TIMES (Mar. 27, 2020), <https://www.nytimes.com/2020/03/27/opinion/sunday/coronavirus-climate-change.html> [https://perma.cc/6LFX-NQPA].

313. *Reviving the US CDC*, 395 LANCET 1521, 1521 (May 2020).

314. See KERRY EMMANUEL, WHAT WE KNOW ABOUT CLIMATE CHANGE 59–63 (2018). The divide over mask wearing, for example, shows the limits of uniform adoption and how mask wearing and similar behavior can serve as a proxy for political identity. See Jieun Shin, Aimei Yang, Wenlin Liu, Hye Min Kim, Alvin Zhou & Jingyi Sun, *Mask-Wearing as a Partisan Issue: Social Identity and Communication of Party Norms on Social Media Among Political Elites*, 8 SOC. MEDIA & SOC’Y 1, 4–5 (2022).

315. See, e.g., *Here’s How Climate Change Has Become Politicized*, NBC BOS. (Aug. 13, 2020), <https://www.nbcboston.com/multimedia/how-climate-change-has-become-politicized/2177244/> [https://perma.cc/8MM8-Z6J7].

ability to rapidly adapt to a public health threat, these efforts proved fleeting, providing a cautionary tale concerning the spread of misinformation.

2. Securitizing Climate: A Role in Advancing Behavioral Change?

Our coronavirus behavioral response—both in the United States and internationally—demonstrates that societies can transform their collective behavior rapidly and at scale in response to public health threats. But science politicization and “lockdown fatigue”—where Americans disregarded health guidelines after a period of time—provide a cautionary tale for long-term, widespread climate behavioral adaptation. Could climate change suffer from an analogous adaptation fatigue as we are asked to reduce our individual carbon emissions in an effort to avoid future harm?

Professor Cass Sunstein has observed that social norm creation can be explained by the intrinsic satisfaction of doing the right thing and approval from friends.³¹⁶ There is some evidence that securitizing climate change could have a powerful effect on norm creation.³¹⁷ For example, when the U.S. government sought to increase recycling efforts from its citizens during the Second World War, they tied recycling to a higher, patriotic duty.³¹⁸ Crisis communications play an important role in norm creation. This encompasses explaining both *how* we must adapt as well as *why* behavioral adaptation is necessary. This point was reinforced by Professor Sarah Light, who hypothesized that linking climate change to national security has the follow-on benefit of changing individual attitudes and benefits, shaping both behavior and the political debate over climate.³¹⁹ And personalizing this message with face-to-face contact can facilitate norm creation—a tricky problem when misinformation spreads rapidly.³²⁰

CONCLUSION

When Private Vang awoke from a restless sleep, she was told to see Sergeant Jackson, her well-regarded platoon sergeant who she had served closely with over the last eighteen, hectic months. Upon entering Sergeant Jackson’s office, Private Vang was handed a dossier with several files, all stamped, “Official Orders.” She gasped. She quickly skimmed the three sets of orders. The first set of orders required her to stay at the nursing home until April 2022, where she would remain deployed under a Title 32 status.³²¹ From there she would be able to return to Minnesota, but

316. Sunstein, *supra* note 310, at 906–07.

317. See Carlson, *supra* note 310, at 1258–59.

318. *Id.* at 1257–58.

319. Sarah E. Light, *Valuing National Security: Climate Change, the Military, and Society*, 61 UCLA L. REV. 1772, 1772 (2014) (arguing that the military is the “unequivocal validator of climate science” that “unleash[es] important spillover effects in the sphere of values, behavior, and policy”).

320. See Carlson, *supra* note 310, at 1259 (highlighting the role that face-to-face contact has in maximizing participation in a federal recycling program).

321. This timeframe is consistent with existing federal government guidance. See *FEMA Fact Sheet*, *supra* note 22.

only briefly. Private Vang's second set of orders required her to deploy to Miami, Florida, in June—the beginning of the Atlantic hurricane season. After ninety days in Florida, Private Vang would start her third set of orders in California, where she would be positioned near Paradise, California, to help California Fire throughout the wildfire season. It would be another busy year for her.

The COVID-19 crisis has stressed our international and domestic governance structures.³²² COVID-19 response insights should serve as a sobering reminder of the complex challenges ahead for climate change. But if we look closely, our collective COVID-19 response provides insight, opportunity, and lessons learned that can be applied to disaster response and other climate security impacts. Indeed, we would be well served by viewing the COVID-19 response as a “stress test” for the climate security challenges facing us this century. In doing so, we must think expansively about national security and human security to ensure we have the laws, processes, and expertise in place to counter an expanding menu of non-traditional security threats.

Regardless of any *ex ante* security approach taken prior to disaster striking, the federal government will be called upon to assist in a disaster's aftermath. State and local emergency responders will increasingly be under stress to respond, and the military—led by the National Guard—will fill a variety of missions.³²³ This new coronavirus model of federal funds for the state-controlled National Guard offers a new model for disaster relief efforts.

I began this Article by highlighting the similarities between climate change and COVID-19. But there is one important difference. Unlike COVID-19, we lack a climate vaccine that will alleviate human suffering and loss. Climate change remains a “super wicked” problem that will require an “all-hands-on-deck” approach.³²⁴ In turn, we should learn from our governance and behavioral response to COVID-19 and get to work on transformational action.³²⁵ Our COVID-19 response acts as a unique global stress test on our international institutions, governance models, and underlying behaviors. A crisis, after all, is a terrible thing to waste.³²⁶

322. Of course, there are also some important differences. Climate change is a long-term problem that has been understood for decades, while COVID-19 is an abrupt emergency whose far-ranging impacts were not predicted. *Cf.* Farber, *supra* note 28.

323. In the aftermath of Hurricane Katrina, the Louisiana National Guard remained under the control of the governor, thus allowing the Guard troops to engage in the full spectrum of missions, to include law enforcement. *See* H.R. REP. NO. 109-377, at 206–07 (2006).

324. *See* Lazarus, *supra* note 31, at 1157 (“Climate change . . . imposes costs on the short term for the realization of benefits many decades and sometimes centuries later.”); *see also* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT (2015).

325. Lazarus, *supra* note 31, at 1231–32.

326. *See supra* note 1 and accompanying text.