Everything Everywhere All at Once
Wars, Climate Change, Natural Disasters, Coups, and Economic Collapse

Dr. Ethan Allen
Dr. Sebastian Kevany
Dr. Srini Sitaraman

Abstract

Amid escalating active kinetic conflicts and the ever-growing and ever-more-severe environmental impacts of climate disruption, along with related and unrelated public health threats, governments worldwide confront increasingly complex choices in addressing simultaneous and sequential crises. Never in human history have so many states juggled so many disasters within such a brief span, yet our governance mechanisms often prove woefully inadequate for this daunting challenge. Trends strongly indicate that the situation will deteriorate further in the years ahead. Successfully managing and ameliorating our deteriorating physical and geopolitical environments demands a significant shift in mindset among global leaders—a fundamental recognition of humanity's unity. This necessitates a departure from short-term, self-centered, nationalistic thinking toward a longer-term, more inclusive perspective that embraces the common needs and interests of all individuals on this planet.

***

The world is grappling with simultaneous, multitiered, and multidimensional security challenges, including two major armed conflicts: one between Russia and Ukraine, and another between Hamas and the state of Israel. Additionally, regional security tensions persist in the South China Sea, the Taiwan Straits, the India–Pakistan border, the India–China border, and several armed conflicts in Africa.

---

While the globe contends with multiple military conflicts, it also faces a surge in major natural disasters. These include destructive fires on the island of Maui in Hawai‘i, unyielding forest fires during the summer of 2023 in Canada, earthquakes in Morocco and Afghanistan, flooding in Libya and Pakistan, and a glacial lake outbreak flood in Sikkim in India.

Compounding these challenges is the ongoing recovery from the devastating impact of the COVID-19 virus, estimated to have caused 7 million deaths worldwide. The virus’s effect extends beyond the health sector, straining many countries’ capacity to cope with a vast and far-reaching health emergency. Its sweeping economic, social, and political impact ramifications continue to reverberate.

The economic and political fallout from COVID-19 lockdowns precipitated the collapse of the Sri Lankan government, triggered food riots in Pakistan, 

---

19 Andrew Blick and Funmi Olonisakin, “The ongoing political consequences of the pandemic,” WORLD: we got this (podcast), 7 October 2022, https://www.kcl.ac.uk.
fueled underreported social unrest in China,23 spurred military coups in Africa,24 and contributed to worldwide food inflation,25 conspiracy theories, antivaccine controversies, and a general distrust of governments.26

Everything is happening all at once everywhere, straining the capacity of governments, international organizations, and nongovernmental organizations (NGO) to address multiple complex disasters that require emergency assistance, long-term economic reconstruction aid, and, most importantly, the political will to devise lasting and innovative solutions.

Argument

This article delves into the ramifications of these simultaneous, multitiered, and multidimensional security challenges, spanning from armed conflicts to the impacts of climate change and natural disasters on political structures. The article questions whether the world’s readiness and capacity are sufficient to confront the convergence of multiple crises—namely, various types of disasters driven by diverse factors occurring simultaneously. The article contends that intentional and coordinated planning, on a broader and more inclusive scale than currently practiced, is imperative for humanity to sustain resilience and effectively address these global multidimensional challenges concurrently.

Furthermore, this work asserts that the world is fundamentally ill-prepared to face multiple wars, natural disasters, economic downturns, and political upheavals concurrently due to a lack of simultaneous thinking in leadership, both domestically and internationally. Just as any system is unprepared for multiple challenges concurrently, governments worldwide are unequipped to handle multiple complex emergencies burdening governance systems simultaneously, thus diminishing the efficacy of responders.

Drawing from the concept of simultaneity in physics, which acknowledges that two events occurring in spatially separated locations could coincide temporally,27 the article proposes that policy makers must be prepared to identify and respond

27 Max Jammer, Concepts of Simultaneity: From Antiquity to Einstein and Beyond (Baltimore: Johns Hopkins University Press, 2006).
to multiple and increasingly complex emergencies stemming from distinct causal streams, even if occurring in geographically or temporally distinct timeframes. For instance, a country could face simultaneous natural disasters amid an ongoing civil conflict or economic downturn, potentially precipitating a coup or exacerbating an economic and political crisis.

The article advocates that the initial stride toward addressing multilayered conflicts and security challenges necessitates recognizing that the world is navigating uncharted territory, particularly concerning climate and natural disasters. Merely acknowledging climate-change-induced natural disasters is insufficient; we must grasp that climate disruption is precipitating extreme temperature fluctuations, droughts, floods, and crop failures, thereby jeopardizing the economic prospects of vast populations.28

These climate-induced socioeconomic stressors invariably incite large-scale political protests and market volatility, fostering the migration of people to new regions and escalating the likelihood of identity and economic conflicts.29 Already, we observe mass movements of people such as the Rohingya from Myanmar to neighboring countries in South and Southeast Asia,30 Central and Latin Americans embarking on perilous land routes to North America in sustained waves,31 and economic and conflict refugees undertaking arduous journeys across the Mediterranean to Europe.32 According to a report from the United Nations High Commissioner for Refugees, each year, “natural disasters force an average of 21.5 million people from their homes around the world.”33

According to the assessment by the UN Intergovernmental Panel on Climate Change (IPCC), over the next three decades, as our planet gets hotter, “143 million people are likely to be uprooted because of rising seas, drought, searing tempera-

---

32 Corina Pons, “‘No one can stop them’: African migrants aim for Spain’s Canary Islands,” Reuters, 10 August 2022, https://www.reuters.com/.
33 Julie Watson, “Climate change is already fueling global migration. The world isn’t ready to meet people’s changing needs, experts say,” PBS News Hour, 28 July 2022, https://www.pbs.org/.
turies, and other climate catastrophes.” The report further highlights that “most climate-related migration and displacement observed currently takes place within countries” and the “climate hazards most commonly associated with displacement are tropical cyclones and flooding in most regions, with droughts being an important driver in sub-Saharan Africa, parts of south Asia and South America.”

The IPCC Sixth Assessment Report underscores the “increasing trends of climatic change and variability and extreme events severely impacting the region, exacerbating problems of rampant and persistent poverty, precarious health systems and water and sanitation services, malnutrition and pollution.” More importantly, the report findings indicate that poor “governance and lack of participation escalates the vulnerability and risk to climate variability and change in the region.”

Climate-related migration falls into different categories: (1) temporary and seasonal; (2) indefinite and permanent; (3) internal; (4) international; (5) rural-to-urban or rural-to-rural; (6) displacement; and (7) planned/organized resettlement. Future migration and displacement patterns stemming from climate change will hinge not solely on the physical ramifications of climate change but also on forthcoming policies and planning across various governmental levels. Effectively managing the escalating tensions linked to cross-border migration demands an unparalleled international coordination and cooperation effort.

**Geopolitical Tensions and Global Conflict**

Geopolitical tensions and conflicts often stem from unresolved territorial and resource disputes, identity clashes, strategic competition, or unchecked political ambitions. With the abrupt end of the Cold War’s balance-of-power dynamics in the late 1980s, the world appeared to transition into an era of neoliberal global-

---

37 Castellanos et al., “Central and South America,” 1709.
ization, facilitated by economic liberalization and technological advancements. However, countering this trend, in 1998, both India and Pakistan conducted nuclear tests, contravening the Nuclear Nonproliferation Treaty. This action was followed by a significant border conflict in 1999 (Kargil War), escalating regional tensions and reigniting fears of nuclear warfare.

The advancement of liberalization faced setbacks across numerous regions due to various conflicts, including the wars in the Balkans, the 9/11 terror attacks, and subsequent conflicts in Iraq, Afghanistan, Libya, and Syria. Additionally, numerous other conflicts persist globally, such as multisectoral ethnic clashes and widespread civil unrest in Central Africa, originating from the Democratic Republic of Congo, as well as the lingering repercussions of the Rwandan genocide and the enduring civil war in Somalia.

Meanwhile, Sri Lanka witnessed a decades-long civil war, culminating in 2009 following a large-scale military operation by the Sri Lankan government. Similarly, Myanmar continues to grapple with an ongoing ethnic conflict since the military junta seized control of the government from civilian rule in 2021, further burdening our collective burdens.

50 Somali conflict,” International Committee on Red Cross, 2022, https://www.icrc.org/.
The world is witnessing escalating tensions on the Korean peninsula exacerbated by North Korea’s aggressive pursuit of nuclear and missile capabilities, intensifying friction in the Taiwan Straits and the South China Sea. Globally, a multitude of micro and macro conflicts, ignited by various root causes such as territorial disputes, resource scarcity, ideological differences, and identity clashes, persist without enduring resolution. The UN IPCC Sixth Assessment report underscores that “climate change has been associated with the onset of conflict, civil unrest or riots in urban settings . . . and changes in the duration and severity of existing violent conflicts.” Moreover, the IPCC panel’s findings indicate that “inequality and consequent relative deprivation can lead to conflict and the negative impacts of climate change lower the opportunity cost of involvement in conflict.” Additionally, the IPCC panel warns of potential violent reactions or heightened tensions within families due to evolving gender norms within familial structures. Overall, the resounding message is clear: conflict has never posed such pervasive destruction—not solely in material terms but also concerning climate change, societal dynamics, economics, and societal cohesion.

According to the Geneva Academy’s Armed Conflict Tracker, there are presently 45 armed conflicts occurring in the Middle East and North Africa, 35 in Africa, 21 in Asia, seven in Europe, and six in Latin America, totaling 114 conflicts worldwide. Many of these confrontations involve nonstate actors and state-sponsored interventions within the regions, often drawing the participation of major external powers. This strains the capacity of states and international organizations to address other pressing policy challenges, including both natural and human-induced nuclear disasters such as Fukushima and Chernobyl. The Fukushima nuclear catastrophe epitomized a classic cascading disaster triggered by a significant undersea earthquake, resulting in a colossal tsunami off the coast of Japan, which subsequently precipitated a major nuclear accident.
Climate Change and State Response

In a Pew Center Research Survey spanning 19 countries and released in August 2022, 75 percent of participants acknowledge climate change as a major threat, with 19 percent considering it a minor threat, while a mere five percent dismiss it as not a threat. Clearly, global sentiment underscores climate change as a significant peril to planetary life systems. Nonetheless, the perennial challenge lies in translating public opinion consensus into actionable climate policies at both domestic and international levels—policies that strike a delicate balance between addressing the immediate needs of the global populace and safeguarding the health and stability of the planet.

While addressing climate-related natural disasters has long been within the purview of defense and security forces, the frequency, severity, and human toll of these events are escalating at an alarming rate. These challenges are not merely additive but rather multiplying, as traditional geopolitical adversaries continue to pose persistent threats. Security forces worldwide find themselves not only compelled to contend with more frequent and extensive climate-induced crises but also grappling with escalating day-to-day operations challenges arising from climate-related hazards such as sea level rise-induced inundation, flooding from extreme rainfall events, heatwaves, and crop failures.

As the demands for responding to these challenges mount, security forces must also assume proactive roles in adapting to the impacts of climate disruption. Failure to do so risks overwhelming these forces in the face of rapidly evolving changes.

Military leaders are increasingly prioritizing immediate concerns and near-term threats, such as humanitarian assistance and disaster relief (HADR) operations. However, they may not fully grasp that many of these immediate HADR challenges stem from a combination of factors exacerbated by climate change. Moreover, the long-term outlook suggests that demands for HADR operations are likely to escalate as armed conflicts continue to unfold in various regions worldwide.

Recognizing the threat posed by climate change, some organizations, like the Council of Europe, are striving to integrate it into the European Union’s strategic thinking and actions across various domains, including defense research and de-

---


velopment, industry and technology, infrastructure, and the EU Common Security and Defence Policy. According to this road map, interlinked actions are required in multiple areas, such as (1) operational dimension, (2) capability development, and (3) partnerships.65

Defense and security forces play a significant role in carbon dioxide emissions, but they are now taking proactive steps to mitigate their carbon footprints by exploring green technologies to reduce emissions. However, this endeavor is particularly challenging as they operate at high levels of activity while also being engaged in conflict situations, such as the 114 conflicts mentioned previously.66

These intricate challenges are not confined to isolated areas; rather, security forces worldwide are grappling with them, straining resources and leaving fewer to be shared with allies, partners, and those in need or crisis. Moreover, this scenario unfolds in an increasingly daunting environment where once-in-a-century-type natural disasters occurring simultaneously at multiple geographic locations are becoming more commonplace.

Climate Change and Military Readiness

There is widespread acknowledgment that climate change poses a national security threat. Military leaders recognize that climate change acts as a force multiplier and a significant disruptor. However, only a handful of countries, such as the United States and the United Kingdom, have begun formulating plans to adapt to climate conditions as integral components of their military readiness and preparedness plans.67 Other major military powers, including China, Russia, Iran, and Turkey, have yet to incorporate climate preparedness—such as adaptation, mitigation, and resilience—into their military planning.68

While China’s supreme leader, Xi Jinping, has announced ambitious goals to reduce carbon emissions starting in 2030 and achieve carbon neutrality by 2060, the People’s Liberation Army (PLA) has not publicly demonstrated a sense of urgency regarding climate change as part of its security strategy.69 Although there

---

is recognition that climate change falls within the realm of nontraditional security, and the PLA is engaged in various programs to promote environmental sustainability, such as massive reforestation efforts, there is no explicit mention of climate change in its Chinese Defense White Paper published in 2019.\textsuperscript{70} There is a prevailing belief that China favors technological solutions over other measures to address climate change.\textsuperscript{71}

Similarly, Russia, a significant oil producer, appears indifferent to climate concerns, evident in its sustained and energy-intensive war against Ukraine.\textsuperscript{72} Despite being a signatory to all UN climate treaties, including the Paris Agreement’s commitment to reach net-zero carbon emissions by 2050 or soon after,\textsuperscript{73} Russia’s efforts to tackle climate change have been rated as “highly insufficient” by the Climate Action Tracker. The country’s existing policies indicate no real commitment to curb emissions.\textsuperscript{74} In anticipation of the UN’s COP28 climate summit, Russia voiced opposition to the “phasing out” of fossil fuels, and its recently revised climate doctrine omits any reference to fossil fuels and their climate impact.\textsuperscript{75}

The environmental repercussions of Russia’s military offensive against Ukraine have been profound. The conflict has resulted in numerous instances of air, water, land, and soil pollution, along with ecosystem damage.\textsuperscript{76} Ukrainian authorities estimate that Russia’s military activities adversely affected 900 protected natural areas in Ukraine within the initial months of the war alone—the subsequent damage over the past two years of conflict remain to be measured.\textsuperscript{77} Furthermore, the conflict has detrimentally impacted Ukraine’s diverse biodiversity, with forest fires, deforestation, explosions, fortification construction, and soil and water contamination all jeopardizing wildlife and habitats.


Thus, despite Russia’s pledges to address climate change, its actions, particularly its energy-intensive military operations in Ukraine, reveal a contrasting reality. The environmental fallout from this campaign, coupled with Russia’s reliance on fossil fuels for its economy, underscores the complexity and urgency of addressing climate change. It is evident that a more concerted effort is imperative from Russia, as well as all nations, to tackle this pressing global issue.

The US Department of Defense (DOD) adaptability plan currently outlines initiatives to train military personnel in climate adaptation techniques and enhance supply-chain resilience through collaboration and cooperation with allies and partners.\textsuperscript{78} The White House Executive Order on Tackling the Climate Crisis at Home and Abroad, issued on 27 January 2021, established climate considerations as “an essential element of United States foreign policy and national security.” The Executive Branch of the United States has declared that it would be its policy to “work with other countries and partners, both bilaterally and multilaterally, to put the world on a sustainable climate pathway.”\textsuperscript{79}

US Deputy Secretary of Defense Kathleen Hicks asserts that climate change is unequivocally a “national security issue” acknowledged by the national security community.\textsuperscript{80} For the United States, climate preparedness encompasses a spectrum of measures, including fortifying shelters and bases, addressing rising sea levels in vulnerable regions, and reducing reliance on fossil fuels while transitioning to renewable energy sources. There is also widespread recognition that integrating climate considerations into the operational environment and decision-making process could offer strategic advantages.\textsuperscript{81}

**Difficulties of Reducing the Global Carbon Footprint**

Environmental concerns and climate change pose threats not only to us but also to our allies and adversaries, constraining access to natural resources, exacerbating internal and international tensions, and increasingly precipitating conflicts. Paradoxically, these challenges unfold against a backdrop of changing conditions on a planetary scale, heightening the imperative for intensely coop-

\textsuperscript{78} Department of Defense Climate Adaptation Plan.

\textsuperscript{79} “Executive Order on Tackling the Climate Crisis at Home and Abroad” (executive order, White House, 27 January 2021), https://www.whitehouse.gov/.

\textsuperscript{80} Jim Garamone, “Hicks Defines Need to Focus DOD on Climate Change Threats,” Defense One, 30 August 2023, https://www.defense.gov/.

erative, collaborative, and innovative approaches in our dealings with both allies and adversaries.


Global carbon emissions have surged from approximately 500 million metric tons at the turn of the last century to over 10,000 metric tons in the previous decade. This escalation in carbon dioxide (CO2) emissions and other greenhouse gases—such as methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF6), and nitrogen trifluoride (NF3), as identified by the Kyoto Protocol of 1997—are acknowledged as the primary contributors to the rise in global temperatures and the onset of climate-related events.82

According to the Environmental Protection Agency, carbon emissions from fossil fuels have seen a significant increase since 1900, with emissions from fossil fuel combustion and industrial processes accounting for more than three-fourths of the total greenhouse gas emissions rise from 1970 to 2011. In addition to fossil fuel consumption, agricultural activities, deforestation, and other land-use practices stand as the second-largest contributors to the escalation in carbon emissions (fig. 1). It is evident that achieving a substantial reduction in climate-altering emissions on a global scale necessitates coordinated efforts among key contributors such as the United States, the People’s Republic of China, India, Russia, and the European Union, which collectively account for the majority of these greenhouse gas emissions (fig. 1). While Asia (excluding China) also contributes to CO2 emissions, these are distributed among numerous nations that lack the economic cohesion seen in the European Union, making policy coordination nearly unattainable. Similarly, individual countries in Asia outside the People’s Republic of China (PRC) do not come close to matching the emission levels of the five aforementioned entities—China, United States, the European Union, India, and Russia.


---

Renewable energy’s prominence is growing swiftly in India relative to other major economies, yet India remains heavily dependent on coal, which satisfies nearly 80 percent of its overall energy requirements. As the Indian economy continues its trajectory of growth and expansion, the demand for energy will likewise surge, leading to a heightened reliance on fossil fuels, particularly coal and oil.

Meanwhile, China, renowned as one of the largest consumers of coal, emits nearly a third of all energy-related greenhouse gases—a figure surpassing the combined emissions of the United States, Europe, and Japan (fig. 2). In fact, China’s coal consumption exceeds that of the rest of the world combined, with a rapid expansion in the construction of coal-fired power plants. Furthermore, China claims two-thirds of the global coal-fired capacity, with an additional 106 gigawatts of new coal power capacity added in 2022 alone. By comparison, the operating capacities of coal-fired plants in India and the United States are approximately 236,000 and 205,000 megawatts, respectively.

The United States and the People’s Republic of China appear entrenched in a great-power rivalry, marked by escalating tensions and dwindling cooperative efforts. Both India and the PRC have substantial energy needs, much of which is met by coal-powered plants necessary to sustain economic growth and societal stability. Currently, there are no politically viable mechanisms in place to reduce the per capita energy consumption of North American and European populations—ranging from 50 kwh to 100 kwh and 20 kwh to 50 kwh, respectively—to levels that are globally sustainable. Moreover, the top-five coal-consuming countries also rank among the world’s top-five oil consumers, further contributing to the escalating greenhouse gas emissions. Despite advancements, non-fossil fuel energy alternatives have yet to attain the scale required to match the current pace of economic activity.

---

Figure 3. China coal-fired plants production and operational capacity. (Chart based on data from Flora Champenois et al., China’s new coal power spree continues as more provinces jump on the bandwagon (Helsinki: Centre for Research on Energy and Clean Air, August 2023), https://energyandcleanair.org/.)

Future of Climate Change and Global Conflict

Like pandemics, climate change triggers conflict through intricate and indirect channels, disproportionately impacting already vulnerable populations and fragile regions grappling with governance deficiencies and corruption. During extreme climate events, women face heightened risks of domestic violence, harassment, and even trafficking. Economic pressures often compel women to seek employment outside their homes, leading to cultural tensions and domestic abuse, while men may migrate in search of work, further straining familial dynamics.

One prominent example illustrating a direct link between climate change and conflict is the case of Syria. Scholars have theorized that droughts and severe water shortages in Syria from 2006 to 2010 precipitated a famine, prompting mass internal migrations, particularly to urban centers. These migrations

---

fostered tensions among various urban communities, culminating in widespread protests in 2011 that ignited a massive civil war engulfing the entire region and beyond.\textsuperscript{93}

The root cause of the Syrian drought, potentially attributed to climate change, prompted nearly a million people to flee the northeast region of Syria.\textsuperscript{94} Three climate-related factors—severe water shortages, food insecurity, and population stressors—converged to exacerbate the political and economic crisis in Syria.\textsuperscript{95} Some estimates suggest that Syria experienced its most severe drought in 900 years, resulting in the destruction of crops and livestock, compelling rural residents to migrate to urban areas alongside refugees from Iraq.\textsuperscript{96} Water scarcity intensified, and food prices soared, amplifying suffering and social upheaval. The distress caused by the drought, crop failures, and water scarcity served as primary catalysts for unrest. Internal migrants relocated to Syrian cities, sparking tensions with existing urban populations and other refugees from the region, ultimately leading to peaceful antigovernment protests aimed at addressing economic grievances. However, the government’s harsh response to the protests exacerbated the situation, attracting radical nonstate actors and external powers who exacerbated violence, resulting in an unmanageable disaster of monumental proportions.

While climate change or ecological factors may not have been the sole cause, they acted as significant threat multipliers in Syria. Combined with extreme inequality, poor governance, corruption, and political polarization, they set the stage for catastrophic violence. Although this scenario may not replicate itself in every context, in the Syrian case, a combination of risk factors compounded by climate change is more likely to fuel volatile situations in other climate-vulnerable regions. Crop failures stemming from droughts and land-use dynamics spurred outward migration and eventual hostilities in Syria.\textsuperscript{97}

Similar climate-exacerbated conflicts are unfolding in other regions, such as the central Iranian province of Khuzestan, characterized by resource richness but plagued by severe water scarcity, environmental degradation, economic deprivation, and sociopolitical discontent. Conflicts also manifest in the Rift Valley of Kenya,

\textsuperscript{94} Nick Schifrin, “Assad’s Idlib offensive drives nearly 1 million from their homes—and into the cold,” \textit{PBS NewsHour}, 18 February 2020, https://www.pbs.org/.
\textsuperscript{95} “Syrian Civil War: The Role of Climate Change.”
\textsuperscript{97} Lina Eklund et al., “Societal drought vulnerability and the Syrian climate-conflict nexus are better explained by agriculture than meteorology,” \textit{Communications, Earth & Environment} 3 (2022): 85, https://doi.org/.
where pastoralists clash with farm owners, and in the Horn of Africa, where climate change exacerbates water scarcity, food shortages, and competition over limited resources. The National Intelligence Estimate on Climate Change (NIECC), based on forecast modeling, presents three key findings establishing linkages between climate change and conflict (fig. 4).

Finding No. 1: “Geopolitical tensions are likely to grow as countries increasingly argue about how to accelerate the reductions in net greenhouse gas emissions that will be needed to meet the Paris Agreement goals. Debate will center on who bears more responsibility to act and to pay—and how quickly—and countries will compete to control resources and dominate new technologies needed for the clean energy transition. Most countries will face difficult economic choices and probably will count on technological breakthroughs to rapidly reduce their net emissions later.”

Finding No. 2: “The increasing physical effects of climate change are likely to exacerbate cross-border geopolitical flashpoints as states take steps to secure their interests. The reduction in sea ice is already amplifying strategic competition in the Arctic over access to its natural resources. Elsewhere, as temperatures rise and more extreme effects manifest, there is a growing risk of conflict over water and migration, particularly after 2030, and an increasing chance that countries will unilaterally test and deploy large-scale solar geoengineering—creating a new area of disputes.”

Finding No. 3: “Scientific forecasts indicate that intensifying physical effects of climate change out to 2040 and beyond will be most acutely felt in developing countries, which we assess are also the least able to adapt to such changes. These physical effects will increase the potential for instability and possibly internal conflict in these countries, in some cases creating additional demands on US diplomatic, economic, humanitarian, and military resources.”

102 “Peters Introduces Bill to Codify National Intelligence Climate Report.”
103 “Peters Introduces Bill to Codify National Intelligence Climate Report.”
The key findings of the NIECC report are as follows:

1. Geopolitical tensions are likely to intensify due to disputes over greenhouse gas emissions, driven by issues of burden sharing and the zero-sum policies of various countries.

2. The physical impacts of climate change will escalate strategic competition, a trend already evident in current global dynamics.

3. Developing countries will bear the brunt of climate change’s effects, as they are the least equipped to handle its adverse consequences.

Over the past century, the world has “witnessed a tenfold increase in the number of natural disasters since the 1960s.” Correspondingly, the “resulting cost of handling such disasters has gone up from 50 billion USD in 1950s to 200 billion USD per year during the last decade” (fig. 3).¹⁰⁴

According to the 2022 Ecological Threat Report, “27 hotspot countries face catastrophic ecological threats, while also having the lowest levels of societal resilience.” These 27 countries are home to 768 million people. The main conclusions drawn from the this report, the IPCC findings, and the NIECC estimates collectively underscore that without “concerted international action, current levels of ecological degradation will substantially worsen, thereby intensifying a range of social challenges, including malnutrition, forced migration and illness.” Overall, these reports and all these findings unequivocally suggest that climate-related “conflicts will escalate and multiply as a result, creating further global insecurity.”¹⁰⁵

Another study, the Global Peace Report, reveals that countries scoring high on the positive peace index (signifying greater peace and robust governance systems) have demonstrated greater responsiveness and successful adaptation to ecological and public health threats compared to nations plagued by chronic violence and weak governance.¹⁰⁶

There is mounting evidence that a dangerous nexus of climate change, health risks, and conflict is intricately linked through multiple causal pathways, amplifying the frequency of global disasters, armed conflicts, and mass migrations. Mitigating the consumption and production of fossil fuels must be integral to any viable solution.

Renowned former NASA scientist, Jim Hansen, who testified before the US Congress about climate change nearly 35 years ago, has issued stark warnings. He asserts that global warming is accelerating at an alarming rate, surpassing previous estimations of urgency.\(^\text{107}\) Recently, a study led by Hansen and fellow researchers warned that the planet is on track to surpass 1.5 degrees Celsius of warming by the 2020s, as indicated by the impending COP 28 Global Climate Summit. This trajectory suggests that by 2050, global warming could exceed 2.0 degrees Celsius.\(^\text{108}\) The study indicates that such rapid warming will intensify “hydrologic (weather) extremes” and underscores the planet’s heightened sensitivity to greenhouse gases, surpassing previous estimates.\(^\text{109}\)

Using a metric called “climate sensitivity,” Hansen and his colleagues have discovered that the planet’s response to greenhouse gases could be more rapid than previously thought.\(^\text{110}\) This heightened sensitivity implies a potentially accelerated rate of global warming beyond earlier projections.

Hansen and his colleagues emphasize that while limiting warming to under 2.0 degrees Celsius remains feasible, the window to achieve the more stringent target


of 1.5 degrees Celsius is rapidly closing.\footnote{Hansen, et. al., “Global warming in the pipeline.”} To prevent surpassing the 2.0 degrees Celsius threshold, concerted efforts are needed to curtail fossil fuel production and consumption, surpassing current standards.\footnote{Kasha Patel and Shannon Osaka, “Famed climate scientist has a new, dire prediction,” Washington Post, 2 November 2023, https://www.washingtonpost.com/} Should nations fail to collaborate effectively in reducing global greenhouse gas emissions and mitigating temperature rise, the consequences could manifest in simultaneous and intensified environmental disasters, including exacerbated heatwaves, wildfires, biodiversity loss, severe storms, flooding, habitat destruction, and profound impacts on food security and societal well-being.

The Synthesis Report of the Intergovernmental Panel on Climate Change’s Sixth Assessment Report (Summary for Policymakers) paints a stark picture of our future, emphasizing the increasingly unstable and perilous path ahead. The report clearly states that there “is a rapidly closing window of opportunity to secure a livable and sustainable future for all... The choices and actions implemented in this decade will have impacts now and for thousands of years” (fig. 5).\footnote{Hoesung Lee and José Romero, eds., Climate Change 2023: Synthesis Report (Geneva: IPCC, 2023), 24–25, https://www.ipcc.ch/}

In alignment with this grim assessment, the World Meteorological Organization’s (WMO) 2023 report highlights a concerning trend of rapid acceleration in global climate change from 2011 to 2020—a period characterized by what the WMO terms a “decadal acceleration.” The report underscores that the previous decade was the “warmest decade on record by a clear margin for both land and ocean,” and each of the previous decades since the 1990s has been “warmer than all previous decades.”\footnote{Blair Trewin et al., The Global Climate 2011–2020: A decade of accelerating climate change, 2023 WMO-No. 1338 (Geneva: World Meteorological Organization, 2023), https://library.wmo.int/}

Moreover,

Marine heatwaves are becoming more frequent and intense. In any given year between 2011 and 2020, approximately 60% of the surface of the ocean experienced a heatwave. Global mean sea level rise is accelerating, largely because of ocean warming and the loss of land ice mass. From 2011 to 2020, sea level rose at an annual rate of 4.5mm/yr. Glaciers that were measured around the world thinned by approximately 1m per year on average between 2011 and 2020. Greenland and Antarctica lost 38% more ice

\begin{itemize}
\item \footref{footnote111}
\item \footref{footnote112}
\item \footref{footnote113}
\item \footref{footnote114}
\end{itemize}
between 2011 and 2020 than during the 2001-2010 period. This is consistent with an acceleration of ice sheet mass loss.\textsuperscript{115}

<table>
<thead>
<tr>
<th>RISK TYPE</th>
<th>RISK IMPACTS</th>
<th>2025</th>
<th>2030</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geopolitical Risks Over Climate Responses</td>
<td>Perceptions of Insufficient Contributions to Reduce Emissions</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>CO\textsubscript{2} Removal Not a Scale for Countries’ Net-Zero Pledges</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Developing country demands for Financing and Tech Assistance</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Petro States Resist Transition from Clean Energy</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Competition With China over Critical Minerals and Energy Tech</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Contention over the Use of Econ Tools to Reduce Climate Change</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>Climate-Exacerbated Geopolitical Flashpoints</td>
<td>Miscalculation over Strategic Competition in the Arctic</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Cross-Border Water Conflicts</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Cross-Border Migration Due to Climate Impact</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Ungoverned and Unilateral Geoengineering</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>Climate Effects Impacting Country-Level Instability</td>
<td>Strain on Energy and Food Systems</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Negative Health Consequences</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Internal Insecurity and Conflict</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Greater Demand for Aid and HADR</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td></td>
<td>Strain on Military Readiness</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
</tbody>
</table>

\textsuperscript{115} Trewin et al., \textit{The Global Climate 2011–2020}.

The consensus among scientific reports is clear: without effective collective political action, the world is barreling toward a climate collapse, setting off a chain of catastrophic events. The recent COP 28 Climate Summit in Dubai (30 November 2023 to 13 December 2023) teeters on the “cusp of failure,” primarily due to the inability of participating nations to agree on crucial language regarding the

\textbf{Figure 5. Geopolitical risk estimates of climate change on conflict.} (Modified from Office of Director of National Intelligence, “The National Intelligence Estimate on Climate Change (NIECC),” 21 October 2021, https://www.dni.gov/.)
phase-out of fossil fuels.\textsuperscript{116} While this summit was the first to officially acknowledge that fossil fuels are the root cause of climate change,\textsuperscript{117} the Oil Producing and Exporting Countries (OPEC) remained opposed to any language exclusively targeting fossil fuels.\textsuperscript{118} This deadlock highlights the significant hurdles in addressing the root causes of climate change and underscores the lack of tangible progress in mitigating climate-related conflicts.

Another alarming aspect of twenty-first–century climate change is its intricate link to public health and infectious diseases. Diseases like malaria and dengue fever exhibit strong correlations with broader environmental factors. Furthermore, the expanding human footprint and increased interaction with wildlife heighten the risk of zoonotic diseases. As such, the convergence of climate change and public health issues is becoming increasingly apparent and demands urgent attention.\textsuperscript{119}

Addressing these multifaceted challenges requires tackling the interconnectedness of various factors, including the food-energy-water-health nexus and the complex relationship between air quality and climate risks.\textsuperscript{120} However, achieving meaningful reforms is hindered by a lack of political will and financial constraints. Overcoming these barriers is essential to enhancing adaptive capacity and implementing the necessary measures to safeguard both the environment and public health for future generations.

Benjamin Franklin’s words during the signing of the US Declaration of Independence in 1776 resonate profoundly in this context: “We must all hang together, or most assuredly we shall all hang separately.”\textsuperscript{121} The challenges posed by our altered climate and other pollutants threaten to divide us, endangering each individual separately. Overcoming these challenges requires significant international cooperation and the implementation of advanced technological solutions, including green energy, carbon sequestration, and geoengineering techniques. Only through global action can we effectively mitigate the negative impacts of these pressing issues.

\textsuperscript{116} Angela Dewan and Laura Paddison, “‘Verge of complete failure’: Climate summit draft drops the mention of fossil fuel phase-out, angering advocates,” CNN, 11 December 2023, https://www.cnn.com/.
\textsuperscript{117} Aruna Chandrasekhar et al., “COP28: Key outcomes agreed at the UN climate talks in Dubai,” CarbonBrief, 13 December 2023, https://www.carbonbrief.org/.
\textsuperscript{121} Carl Van Doren, Benjamin Franklin’s Autobiographical Writings (New York: Viking, 1945), 418–19.
Figure 6. Impact of climate change with accompanying policy changes. (Chart modified and adopted from “What Is Solar Geoengineering? How does it work, what are the risks, and why should we study it?” Union of Concerned Scientists, 4 December 2020, https://www.ucsusa.org/.)

A Way Ahead

The expanding scope and intensity of global security threats demand a fresh approach from governments and security sectors worldwide. Concepts such as global health diplomacy demonstrate that it is possible to address multiple challenges using the same resources and are based on principles of international cooperation rather than competition.\(^\text{122}\) As many of these crises, driven by climate disruption and public health concerns, transcend national borders, relying solely on nationalist perspectives to address them is no longer tenable. A swift and sustained response is imperative to tackle both the immediate and long-term ramifications of these threats. Given the concurrent nature of these ecological challenges,

governments and security sectors must reassess their roles and relationships with both allies and adversaries.

At the recently concluded COP 28 Summit in Dubai, participating countries agreed to “transition away from fossil fuels in energy systems in a just, orderly and equitable manner,” with the objective of achieving global net-zero emissions by 2050, in alignment with scientific evidence. However, the summit’s official document did not explicitly call for “phasing out fossil fuels.”

In the Global Stocktake document unveiled at COP 28, the state parties to the United Nations Conference on Climate Change made minimal references to fossil fuels. While one mention addressed the need to phase them out without specifying a timeline, another highlighted the necessity of phasing out “inefficient fossil fuel subsidies that do not address energy poverty or just transitions, as soon as possible.”

It is essential to clarify that the COP 28 outcome document does not advocate for the immediate phasing out of fossil fuels but rather emphasizes transitioning away from them at some indeterminate point in the future. While the inclusion of language calling for such a transition marks a significant step forward compared to previous climate summits, the ambiguity surrounding the timeframe undermines its potential impact on achieving climate objectives.

The small island states and low-lying coastal nations expressed disappointment with the outcome document of the COP 28 summit. For these highly vulnerable countries facing the imminent threat of rising sea levels, the summit’s failure to prioritize the phased-out of fossil fuels fell short of addressing the urgency of the climate crisis. They argue that the gravity of their concerns and the escalating impact of climate change have not been fully understood; had it been recognized, the summit participants would have advocated for a rapid transition away from fossil fuels.

However, some observers contend that the mere inclusion of language regarding transitioning from fossil fuels in the COP 28 summit’s outcomes represents a

---


125 United Nations, “Outcome of the First Global Stocktake.”

126 United Nations, “Outcome of the First Global Stocktake.”


128 Natasha Turak, “Pacific Islands lash out at COP28 presidency: ‘We weren’t in the room’ when deal was announced,” CNBC, 13 December 2023, https://www.cnbc.com/.
significant achievement. At the summit, there appeared to be a greater emphasis on exploring technological solutions to climate change, such as substantial investments in renewable energy like solar and wind power, geoengineering techniques, and measures for climate mitigation and adaptation, rather than tackling the root cause by completely phasing out fossil fuels.

The primary challenge remains in devising a globally equitable agreement applicable to all nations while transitioning to renewable energy without disrupting current fossil fuel consumption patterns. There needs to be a widespread recognition that we are all interconnected, sharing the same planet and facing shared threats. Collaboration among nations is imperative, as no single entity can address these challenges alone. This necessitates governmental leaders setting aside doctrinal and ideological disparities and acknowledging the common existential threat posed by climate change. Ultimately, the repercussions of conflict, in all its manifestations, now affect both the victors and the vanquished alike.

Dr. Ethan Allen
Dr. Allen is a leading educator and advocate for water security and STEM education. Currently a professor with the Daniel K. Inouye Asia-Pacific Center for Security Studies, he has a rich background, overseeing STEM programs in Pacific islands, leading National Science Foundation initiatives, and co-authoring the handbook Water for Life. With a biology degree and a doctorate in neuroscience, Dr. Allen's impactful career spans diverse roles, from directing science education programs to hosting the “Likable Science” TV show, promoting science accessibility. His commitment to community resilience is evident in his contributions to water science education and collaborative impact projects.

Dr. Sebastian Kevany
Dr. Kevany is a specialist in health security, health diplomacy, health as foreign policy, international relations, and global public health. Within these realms, he has gained extensive experience in the fields of monitoring and evaluation, cost-effectiveness analysis, diplomacy, national and international security, conflict resolution, and the use of global health engagement as a means of preventing or resolving international conflict.

Dr. Srini Sitaraman
Dr. Sitaraman’s focus is on Indo-Pacific security with a particularly on geopolitics, economics, South Asia, maritime security in the Indian Ocean region, and emerging technology. He has published widely in academic and policy journals, and his commentary has appeared in various news outlets.