NOAA FORM 17-4 (4-81)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Form Approved OMB Control No. 0648-0025
Expires 05/31/2027

INITIAL REPORT ON WEATHER MODIFICATION ACTIVITIES

This report is required by Public Law 92-205; 85 Stat. 735; 145 U.S.C. 330b. Knowing and willful violation of any rule adopted under the authority of Section 2 of Public Law 92-205 shall subject the person violating such rule to a fine of not more than $10,000, upon conviction thereof.

Complete in accordance with instructions on reverse and forward one copy to:
National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
1315 East-West Highway, WWMC-3, Rm 11216
Silver Spring, MD 20910

1. PROJECT OR ACTIVITY DESIGNATION, IF ANY

Weather Modification expermients through electro

2. DATES OF PROJECT

a. DATE FIRST ACTUAL WEATHER MODIFICATION ACTIVITY IS TO BE UNDERTAKEN: 01/05/2023

b. EXPECTED TERMINATION DATE OF WEATHER MODIFICATION ACTIVITIES: 01/01/2026

3. PURPOSE OF PROJECT OR ACTIVITY

To help our Nation solve weather problems such

4. (a) SPONSOR

NAME: Nike Noor LLC

AFFILIATION: Research & Development | PHONE NUMBER: 720-766-9794

STREET ADDRESS: 1220 Washington Ave, Unit 11

CITY: Golden | STATE: CO | ZIP CODE: 80401

4. (b) OPERATOR

NAME: Nike Noor

AFFILIATION: CWOP Station (GW4832) | PHONE NUMBER: 720-766-9794

STREET ADDRESS: 1220 Washington Ave, Unit 11

CITY: Golden | STATE: CO | ZIP CODE: 80401

5. TARGET AND CONTROL AREAS (See Instructions)

TARGET AREA		CONTROL AREA	
LOCATION: Golden, Colorado	SIZE OF AREA: Varies SQ. MI	LOCATION: Colorado	SIZE OF AREA: Varies SQ. MI

6. DESCRIPTION OF WEATHER MODIFICATION APPARATUS, MODIFICATION AGENTS AND THEIR DISPERSAL RATES, THE TECHNIQUES EMPLOYED, ETC. (See Instructions)

Hello, I'm Nike Victoria Noor,
I'm creating a modular invention to help influence rainfall under the right conditions. Initially I started building these devices during Colorado's wildfire season. To help provide a solution to drought and to help our Fire fighters with success rates. Given the science was sound enough to put into practice, I created a Strategic Intelligence Map this year as well and sent it off to UNOOSA and to the United Nations in hopes to create a "weather modification alliance" as the world undergoes extreme climate change.

7. LOG BOOKS *Enter name, affiliation, address, and telephone number of responsible individual from whom log books or other records may be obtained.*

NAME: Nike Noor LLC

AFFILIATION: Research & Development | PHONE NUMBER: 720-766-9794

STREET ADDRESS: 1220 Washington Ave, Unit 11

CITY: Golden | STATE: CO | ZIP CODE: 80401

8. SAFETY AND ENVIRONMENT

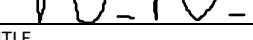
☐ YES	☑ NO	Has an Environmental Impact Statement, Federal or State, been filed? If yes, please furnish a copy as applicable.
☑ YES	☐ NO	Have provisions been made to acquire the latest forecasts, advisories, warnings, etc., of the National Weather Service, Forest Service, or others when issued prior to and during operations? If yes, please specify on a separate sheet.
☑ YES	☐ NO	Have any safety procedures (*operational constraints, provisions for suspension of operations, monitoring methods, etc.*) and any environmental guidelines (*related to the possible effects of the operations*) been included in the operational plans? If yes, please furnish copies or a description of the specific procedures and guidelines.

9. OPTIONAL REMARKS (See instructions. Use Separate Sheet).

CERTIFICATION: I certify that all statements in this report on this weather modification project are complete and correct to the best of my knowledge and are made in good faith.

NAME OF REPORTING PERSON: Nike Noor

AFFILIATION: Research and Development

SIGNATURE: 

STREET ADDRESS: 1220 Washington Ave, Unit 11

OFFICIAL TITLE: Owner

CITY: Golden | STATE: CO | ZIP CODE: 80401

DATE: 06/14/2024 | PHONE NUMBER: 7207669794

INSTRUCTIONS FOR INITIAL REPORT ON WEATHER MODIFICATION ACTIVITIES

One completed copy of this form is to be received 10 days* or more prior to actual modification activities. A NOAA file number will be assigned by the Administrator after receipt of the initial report for each project or activity.

A supplemental report in letter form referring to the appropriate NOAA file number must be made to the Administrator if the "Initial Report" is found to contain any material inaccuracies, misstatements, omissions, or if there are changes in plans for the project or activity.

*For exceptions, see Sections 908.4(b) and (c), Part 908 of Title 15, Code of Federal Regulations.

Item 1 Enter designation, if any, used by operator for the project or activity.

Item 2 Enter: (a) Date first actual weather modification activity is to be undertaken;
(b) Date on which final weather modification activity is expected to occur.

Item 3 Enter the purposes of the project or activity: e.g., rainfall increase, hail suppression, cold fog dispersal, etc.

Item 4 Enter: (a) Name, phone number, affiliation, and address of the primary person for whom the project is to be performed (sponsor).
(b) Name, phone number, affiliation, and address of the person primarily responsible for carrying out the project (operator).

Item 5 A map should be attached showing size and location of target area, control area, coded number and location of each item of ground-based weather modification apparatus and coded number and location of key rain gauges, radars, or other precipitation measuring devices. Also show location of airport for airborne operations.

Item 6 Describe the weather modification apparatus, modification agents, and the techniques to be used. This would include type of ground or airborne apparatus to be used, type of modification material to be dispensed, rate of dispensing material in grams per hour or other appropriate units, type of precipitation gauges to be used in target and control areas, and any other pertinent information such as type of radars, type of aircraft to be used, techniques to be employed (e.g., cloud-based seeding at 10,000 feet msl).

Item 7 List name, phone number, affiliation, and address of the responsible individual from whom log books or other records may be obtained.

Item 8 Provide applicable answers to questions as indicated.

Item 9 This item is to permit the reporting person to include any information not covered by items 1 through 8 but which he feels is significant or of interest. It is also to be used to include any information not covered elsewhere that the Administrator may request.

Global Weather Modification Alliance

STRATEGIC INTELLIGENCE BRIEFING

Generated for Nike Noor on 01 May 2024

Contents

Executive summary

Explore the interactive version online

Weather affects all of us. From extreme conditions caused by global warming to manmade electro-magnetic storms which may render another region powerless to floods, extreme wildfires and hailstorms; Creating an alliance between global leaders will not only heal the planet but may very well be the key towards shaping the future of global policymaking. Through peaceful weather coordination and not war, we may create dominion over the planet through abundance and ideal living environments for all nations. Having a global satellite monitoring system will be one step towards creating this unanimous network of trust and virtue. Regions impacted the most by global warming may once again feel relief.

The Global Weather Modification Alliance aims to address the impact of extreme weather events caused by climate change and pollution. This initiative seeks to unite global leaders through coordinated weather modification strategies and alliances, leveraging global interconnected satellite systems for effective communications. The alliance also aims to define and mitigate cyber security risks with a united global monitoring system, enabling unanimous decision-making for peaceful resolutions among world government policymakers. The initiative also recognizes the disproportionate impact of extreme weather events on vulnerable populations, particularly addressing the challenges faced in Latin America and the Asia Pacific region. Additionally, it highlights the critical role of indigenous communities and the importance of renewable energy sources and climate-resilient infrastructure in mitigating climate-related weather events.

The key issues shaping and influencing Global Weather Modification Alliance are as follows:

The Transformation of Warfare
Conflict increasingly blurs military and civilian dimensions as technology plays a more prominent role

Critical Infrastructure and Cyber Resilience
The systems essential for sustaining a modern economy are increasingly interconnected and under attack

Polarizing Narratives
Global governance institutions serve as a prime platform for both voicing and addressing competing viewpoints

Institutional Capacity
The selectivity of global powers and limited financial resources inevitably impact the performance of international institutions

Likelihood of Weather Events
The frequency and intensity of weather events are increasing and warrants urgent attention

Cyber and Supply Chain Risk
The SolarWinds attack underlined fundamental lapses in software supply-chain security

Humanitarian Aid and Infrastructure
Funding for disaster responses and construction of climate resilient infrastructure has become a necessity

Below is an excerpt from the transformation map for Global Weather Modification Alliance, with key issues shown at the centre and related topics around the perimeter. You can find the full map later in this briefing.

1 Latest insights

A synthesis of the most recent expert analysis.

Below are your latest updates on the topic of Global Weather Modification Alliance spanning 13 different sources.

1.1 Current perspectives

Boston Consulting Group

Asia-Pacific Is Ready for Renewables. Are Energy Players?

23 April 2024

The Asia-Pacific region offers significant potential for renewable energy development, but navigating its markets requires a granular approach. Five essential factors for success in the region include a strategic focus, local partnerships, a diverse range of financing options, proactive supply chain management, and offtake expertise. The region is experiencing strong growth in renewable energy, with installed capacity expanding by 9% annually. To achieve the desired level of renewable energy penetration, significant investment will be needed. APAC renewables investments from 2022 to 2030 are projected to reach $286 billion. Various forces are driving the boom in renewables development, including international investors seeking opportunities and Asian developers looking to expand across the region. The attractiveness of each market and project investment must be considered before committing funds. Different market and project factors influence the attractiveness of APAC renewables projects, and developers and investors must adapt to each market's business environment. However, five key factors are important for success across APAC markets: focus, resource availability, local partnerships, financing options, and offtake expertise.

The Diplomat

The Climate Crisis Is Crushing Australian Festivals

15 March 2024

Australian festivals are increasingly facing disruptions and challenges due to the climate crisis. Extreme weather events, such as heatwaves, rain, and floods, have resulted in the cancellation, postponement, or evacuation of over 40 festivals in the past decade. The effects of climate change, including more frequent and severe extreme weather, are predicted to continue to impact festivals. These disruptions, combined with an insurance crisis and rising costs, are causing uncertainties and financial strains for the live music sector. Efforts are being made to address the issue, including proposals for government-supported business interruption funds and insurance underwriting schemes. Adaptation and relocation of festivals are also being considered. However, there is a need for systematic planning and discussion of climate change's consequences in the cultural sector, alongside support from the government.

Harvard Kennedy School - Belfer Center for Science and International Affairs

Syra Madad Named to World Health Organization Technical Advisory Group

13 February 2024

Syra Madad, Senior Director of the System-wide Special Pathogens Program at NYC Health + Hospitals, has been appointed to the World Health Organization's Technical Advisory Group on the Responsible Use of the Life Sciences and Dual-Use Research. Madad will serve as an advisor, reviewing and making recommendations on various topics related to biorisks, life sciences, and dual-use research. She will play a critical role in supporting member states and stakeholders in developing and implementing biorisk management

strategies. Madad expressed her commitment to shaping a future where scientific advances are used responsibly and ethically.

Asian Development Bank

Applying Spatial Analysis to Assess Crop Damage: A Case Study of the Pakistan 2022 Floods

25 April 2024

Spatial analysis was used in a case study to assess the agricultural damage caused by the 2022 floods in Pakistan. This methodology can be a valuable tool in assessing and verifying the impact of disaster events. The study highlights the importance of building spatial analysis capabilities within crop reporting services and the Ministry of National Food Security and Research to support effective response planning.

Royal United Services Institute (RUSI)

Extreme Weather Risk to Military Operations in a Changing Climate

16 April 2024

The increasing likelihood of extreme weather due to climate change poses a risk to military operations and strategy, requiring militaries to factor in this change.

The Conversation

Catkins are flowering at different times as climate changes – threatening their pollination and the wildlife that feed on them

02 April 2024

Climate change is causing catkins, the fuzzy flowering structures on trees, to bloom at different times. Rising temperatures and changing rainfall patterns disrupt the synchronized blooming of male and female catkins, leading to reduced pollination and seed production. This has implications for wildlife that rely on catkins as a food source. Minor temperature shifts of 2-3°C can significantly affect catkins' pollen production. Additionally, rainfall patterns influence catkin development, with too much rain inhibiting the release of airborne spores. Understanding these changes is vital as catkins play a crucial role in tree reproduction and are an important food source for wildlife.

UN Climate Change

Race to Resilience partner initiatve wins World Habitat Award for early warning tool

07 March 2024

DARAJA, an early warning system for informal urban settlements, has won a World Habitat Award for its work in providing accessible weather information to vulnerable communities. The system, developed by global social enterprise Resurgence, provides regular and reliable weather forecasts in Kenya and Tanzania. Since its launch in 2018, DARAJA has reached almost 1 million people and has led to a significant increase in household repairs made in response to weather forecasts. The service is now expanding to Sudan, Uganda, and Ethiopia, with the aim of reaching 25% of the 1 billion people living in informal settlements worldwide by 2030.

ReliefWeb

Climate Risk Insurance Annual Report 2023 - World

23 April 2024

The 2023 Climate Risk Insurance (CRI) Annual Report highlights the achievements of the World Food Programme (WFP) in providing climate insurance protection to vulnerable populations. In 2023, WFP surpassed its 2025 target by providing coverage to 5.1 million people in 27 countries, totaling almost $300 million. Additionally, $17.8 million in payouts enabled WFP to assist nearly 800,000 people affected by droughts, floods, and tropical cyclones.

World Economic Forum

These sectors are top targets for cybercrime, and other cybersecurity news to know this month

22 April 2024

Critical infrastructure, state institutions, and political systems are the sectors most commonly targeted by cybercriminals, according to data from the European Repository of Cyber Incidents. The healthcare sector is the most vulnerable, accounting for 14.2% of cyber attacks on critical infrastructure, including ransomware attacks and theft of patient records. Financial organizations, telecommunications, transport, and the energy sector are also frequent targets. In other cybersecurity news, Apple has upgraded its iMessage feature with quantum-proof encryption, and millions of telecom customers have been affected by a dark web leak. Additionally, various cybersecurity stories, including data leaks and cyber alliances, have emerged in the past month.

Eco-Business

Perfect storm: How climate change amplifies El Niño fallout

24 April 2024

Record temperatures and extreme weather events are a result of a combination of man-made climate change and the cyclical El Niño weather pattern, according to scientists. Recent heatwaves in West Africa, for example, were made worse by climate change and the El Niño event. Scientists from the World Weather Attribution group warn that without

a rapid reduction in greenhouse gas emissions, these extreme events will become more common and dangerous. El Niño, which occurs every 2 to 7 years, has impacts that are intensified in a warmer atmosphere. Many extreme weather events can be attributed to both climate change and El Niño.

RAND Corporation

Assessing Risk to National Critical Functions as a Result of Climate Change

22 April 2024

Researchers assessed the risk that eight climate hazards will pose to National Critical Functions by 2050 and 2100, and the potential for cascading risk due to interdependencies between these functions. The study provides insights to help allocate resources, make investment decisions, and prepare critical infrastructure systems for future climate hazards.

SpringerNature

Response of runoff to climate change in the Manas River Basin flow-producing area, Northwest China

08 February 2024

The study investigates the response of runoff to climate change in the flow-producing area of the Manas River Basin in Northwest China. The researchers used a Soil and Water Assessment Tool (SWAT) model to simulate the effects of different climate change scenarios on hydrological elements such as runoff, potential evapotranspiration, and snowmelt. The findings suggest that future water resources in the basin will fluctuate, with the amount of available water increasing compared to historical averages. This research highlights the need for a better understanding of the local hydrological cycle to improve water resource management in the face of climate change.

Royal United Services Institute (RUSI)

Recording: Cyber Statecraft: Great Cyber Power Competition

26 March 2024

Liberal democracies and adversarial powers are engaged in a competition in cyberspace, according to a discussion with academics and practitioners. Geopolitical disputes over technological development reflect a battle between liberal democracies advocating for multi-stakeholder approaches to cyber governance and countries like China and Russia advocating for top-down regulatory models. The West lacks the strategic and intellectual capabilities to compete and win in the information and cyber domains, and there is a need for a relevant framework and tools to address cyber aggression. This event was funded by the Defence Science and Technology Laboratory.

UN Climate Change

We need to move forward on resilience, with pace – not perfection

20 February 2024

London is underprepared for the climate hazards it is currently experiencing and will face in the future, according to the interim report of the London Climate Resilience Review. Heat is a particular focus, and the review recommends a ”heat exercise” to assess the city’s preparedness. The report also highlights the need for urgent upgrades to the Thames Barrier and the importance of climate resilience being a part of key decision-making in government. Other cities can learn from London’s review and the steps it is taking to address climate resilience. Many cities around the world are underprepared for the combination of climate hazards triggered by climate change.

World Economic Forum

2023 the hottest year on record, and other nature and climate stories you need to read this week

25 March 2024

The year 2023 was the hottest on record, with global temperatures surpassing pre-industrial levels by 1.45°C. The World Meteorological Organization has issued a ”Red Alert” on climate change, warning of broken records for ocean heat, sea level rise, Antarctic sea ice loss, and glacier retreat. On a positive note, renewable energy capacity increased significantly in 2023. Additionally, global ocean surface temperatures have been consistently breaking records for a year, with marine heatwaves negatively impacting ocean ecosystems and coral reefs. Other news includes central bankers using AI for climate-related financial risk assessment, only seven countries meeting international air quality standards, and the Mediterranean parrotfish migrating to the Adriatic due to rising ocean temperatures.

Oliver Wyman

2024 Outlook For Wholesale Banks In Asia Pacific

20 February 2024

Wholesale banks in the Asia-Pacific (APAC) region in 2024 need to monitor the global macroeconomic environment and its impact on the region. Three scenarios have been outlined: a global soft-landing scenario, an APAC macro recovery scenario, and a worse-than-expected APAC macro scenario. The base case predicts revenue stabilization for the APAC wholesale banking industry, with corporate and transaction banking benefiting. The APAC macro recovery scenario would result in robust revenue growth, while the worse-than-expected APAC macro scenario would lead to credit losses.

A shifting competitive landscape between global and regional banks is also expected to occur.

The Conversation

Global warming may be behind an increase in the frequency and intensity of cold spells

04 March 2024

Global warming is causing an increase in the frequency and intensity of winter cold snaps in the northern hemisphere. This is due to changes in climate mechanisms and disruptions in the stratospheric polar vortex. Winter cold snaps have significant societal impacts, such as health issues, transportation disruptions, and increased energy demand. Developing forecasting tools that can predict these events in advance is crucial. Accurate forecasting requires including realistic descriptions of stratospheric ozone in computer models. Recent research has shown improvements in temperature simulations by incorporating alternative representations of stratospheric ozone.

Eco-Business

First Covid, now heat: Online schooling returns to the Philippines

24 April 2024

Record heat in the Philippines has resulted in schools sending children home for online classes, raising concerns about educational inequalities. The extreme weather, linked to the El Niño phenomenon, has forced 7,000 public schools to close. However, many students do not have internet access at home, leaving them without the ability to participate in online classes. The lack of adequate ventilation measures in classrooms has also led to heat-related conditions, with some students even collapsing. Climate change is expected to worsen heatwaves in the future, affecting children's health and ability to learn. Measures are needed to address these issues, such as improving infrastructure and providing free drinking water in schools. The Department of Education is being called upon to take action.

Asian Development Bank

Asia-Pacific Trade Facilitation Report 2024: Promoting Sustainability and Resilience of Global Value Chains

01 April 2024

The Asia-Pacific Trade Facilitation Report 2024 examines the progress of trade facilitation in Asia and the Pacific, with a focus on promoting sustainability and resilience in global value chains. It discusses recent trends in paperless trade, evaluates the impact of trade facilitation initiatives on trade costs, and emphasizes the role of digitalization in creating environmentally sustainable and disruption-resilient supply chains. The report includes a special chapter on promoting sustainability and resilience in global value chains through trade facilitation.

ReliefWeb

Quantifying the Impact of Climate Change on Human Health (January 2024) - World

23 April 2024

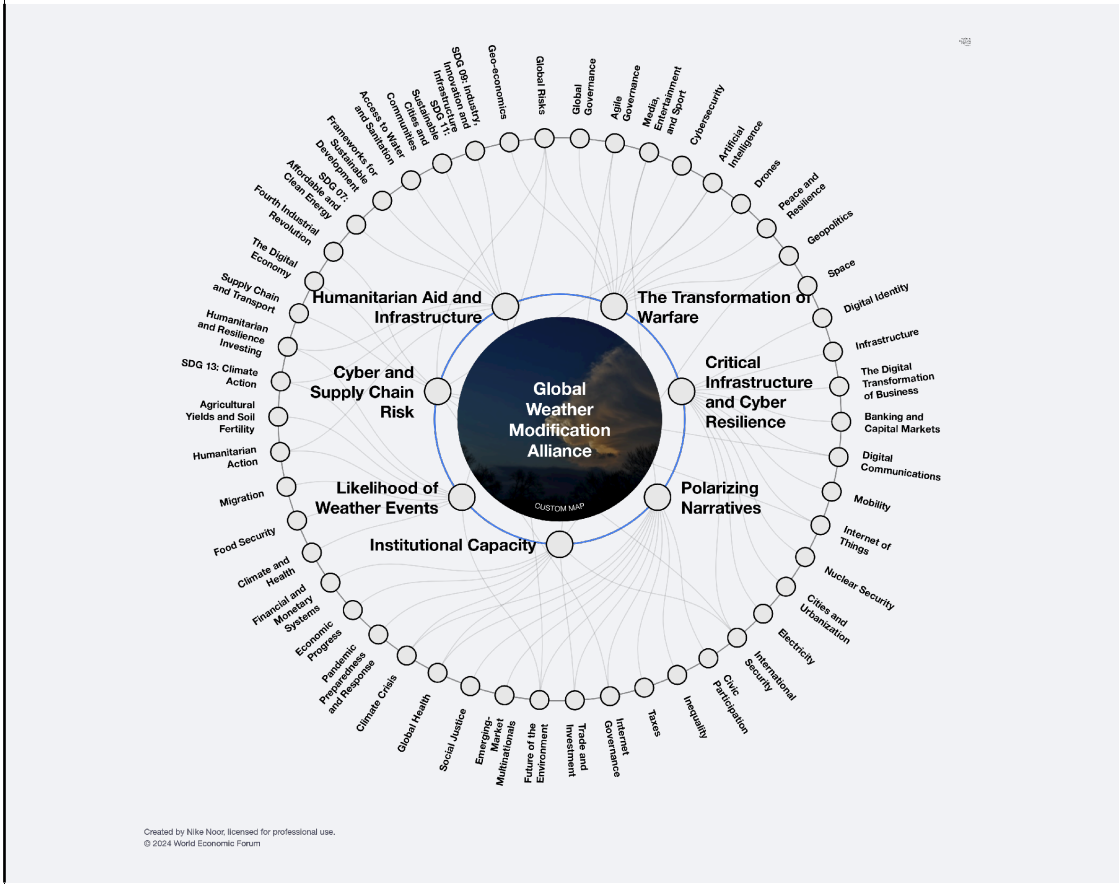
By 2050, climate change is projected to cause an additional 14.5 million deaths and $12.5 trillion in economic losses worldwide, with the most vulnerable populations being disproportionately impacted, according to a report by the World Economic Forum and Oliver Wyman. The report highlights increased risks from new pathogens, pollution, and extreme weather events, and emphasizes the urgent need for global emission-reduction strategies and adaptation of healthcare infrastructures to address this escalating crisis. A comprehensive transformation of health systems is necessary, with collaborative efforts from multiple stakeholder groups and industries.

2 Strategic context

The key issues shaping Global Weather Modification Alliance.

The following key issues represent the most strategic trends shaping the topic of Global Weather Modification Alliance. These key issues are also influenced by the other topics depicted on the outer ring of the transformation map.

FIGURE 1 **Transformation map for Global Weather Modification Alliance**



2.1 The Transformation of Warfare

Conflict increasingly blurs military and civilian dimensions as technology plays a more prominent role

Countries may now have to include public backlash in their war calculus. Globalized information means states can be culturally and economically isolated, and subjected to widespread international condemnation, at a scale never before seen - as the case of Russia following its invasion of Ukraine demonstrates. Though the inter-state conflict in Ukraine is conventional, states are increasingly losing their monopoly on war and

violence, and often find themselves fighting non-state actors and ill-defined foes. Both state and non-state actors utilize overt and covert actions spanning the social, economic, and technological domains. Iran reportedly uses a network of Shia militias across the Middle East to exert influence and indirectly confront other countries, for example; Hezbollah is seen as Iran's senior surrogate and a primary vector of influence, used against Israel and in the Syrian Civil War. Similarly, Russia has reportedly used hacktivists to influence US elections. Non-state actors also delegate to the surrogates they cooperate with, creating a complex web of actors difficult to understand or control. For example, Hezbollah is believed to provide training, technological, and operational support to other non-state actors such as the Houthis in Yemen.

Technology is changing conflict in myriad ways. The increased prevalence of autonomous weapons and drones has altered the human, political, and economic costs of war. Meanwhile advances in neuro-technology are enabling human-machine combinations, with enhanced soldiers likely to appear on battlefields in the near future. Autonomous weapons raise serious ethical questions; soon they may be able to identify, select, and kill human targets with little or no human oversight. This creates a legitimate concern that they will fall into the hands of malicious actors. In fact, the algorithms behind automation can be easily copied and diffused around the world, and the low cost of easily-accessible drones is already enabling smaller players to inflict significant damage on traditional armed forces. For example, it is estimated that the Islamic State flew more than 300 drone missions in one month alone during the battle for Mosul in 2017. With the possibility of full autonomy looming, these attacks could become even more destructive and render traditional air defence systems ineffective. More importantly, the prospect of full autonomy implies potential technological surrogates - which could play a decisive role in future wars.

Related topics: Geo-economics, Global Risks, Global Governance, Agile Governance, Media, Entertainment and Sport, Cybersecurity, Artificial Intelligence, Drones, Peace and Resilience, Geopolitics, Space

2.2 Critical Infrastructure and Cyber Resilience

The systems essential for sustaining a modern economy are increasingly interconnected and under attack

The US Department of Homeland Security defines critical infrastructure as assets and networks - physical or virtual - considered so vital their incapacitation or destruction would have a debilitating effect on national economic security, public health, or safety. Around the world, there is a shared imperative to secure such vital systems. A study published by the Center for Strategic and International Studies in 2021 identified more than 200 significant cyber-attacks on critical infrastructure that had occurred in the prior year, affecting systems in more than two dozen countries. Finance, telecommunications, emergency response, energy, health services, transportation, water supply, and food systems are all examples of functions that must be reliable and consistent - interruption or failure in any of them could result in economic hardship, loss of essential services, and a loss of safety. Many essential activities that support critical infrastructure have been increasingly digitalized, and rely on computers and networks - including the internet - to operate. Any breakdown of cybersecurity defenses built to protect these functions could result in catastrophe, and our heavy reliance on technology demands a correspondingly concerted effort to secure it.

With adequate cyber resilience, organizations can confidently and consistently provide their products and services - without it, they risk falling short for their constituencies. Resilience demands that an organization take a holistic view of its technology, and that it focus on foundational elements including cybersecurity, business continuity, and enterprise risk management, all coordinated around a single mission: to operate as planned, and to continue to meet expectations even in the face of cyber events that could otherwise thwart operations - and to be able to do so even when more comfortable, customary ways of operating are unavailable. Critical infrastructure resilience begins with a serious assessment that takes an unclouded view of the vulnerabilities that may exist, and of the potential for them to be exploited - followed by the development of methodical tests and resolution plans for every conceivable risk scenario and potential operational failure that can impact an organization, specific to its sector and the services it provides. Everyone has a right to expect that critical infrastructure is digitally secure and sustainable in the face of any potential cyber threat.

Related topics: Digital Identity, Infrastructure, The Digital Transformation of Business, Banking and Capital Markets, Digital Communications, Mobility, Internet of Things, Nuclear Security, Cities and Urbanization, Electricity, International Security

2.3 Polarizing Narratives

Global governance institutions serve as a prime platform for both voicing and addressing competing viewpoints

Competing understandings of the value and impacts of globalization have existed for decades, as have geopolitical rivalries. But friction has escalated to a level that undermines the functioning of the international system; there is a growing divergence of expectations for what global governance should deliver. Polarized narratives affect both domestic and international institutions and actors. They create stress and imbalances at a domestic level, and can stall multilateral negotiations - even to the point of hindering the operation of international institutions. Such tensions are particularly visible at the UN Security Council, where different views of what represents a violation of international law have prevented decision-making on violent conflicts in countries such as Iraq, Myanmar, and Ukraine. Polarizing narratives and perspectives similarly mar international climate change negotiations. The majority of high-income countries tend to focus on reducing emissions, but have also contributed the bulk of harmful emissions during more than a century of fossil fuel-driven industrialization. Low-income countries, on the other hand, emphasize adaptation measures and demand compensation for the climate-related damage they have suffered. Global governance institutions are tasked with bringing all of these parties to the negotiating table to reconcile their differing priorities.

Polarizing narratives can also impact the ways in which global issues are understood and dealt with. Poverty alleviation is an example. On one hand, there are those who emphasize the power of globalization-driven economic development to lift millions of people out of poverty. On the other, some see globalization as a weapon used by certain actors only to benefit themselves, exacerbating both inequality and poverty. Proponents of the first view expect global governance to facilitate globalization - and to help developing countries join international markets, attract foreign investors, and become part of global supply chains. Proponents of the latter view, on the contrary, challenge this role of global governance and demand that institutions address exploitation and other adverse effects of globalization on the poor, on low-wage workers, and the environment. Such competing views continue to shape global governance outcomes, including global labour norms and environmental standards, guiding principles for business and human rights, and alliances such as the UN Global Compact. As a prime platform for voicing competing viewpoints, global governance institutions are a critical mechanism for balancing polarized narratives on an array of global issues - including poverty and migration, global pandemics, climate change, and security threats.

Related topics: Civic Participation, Inequality, Taxes, Internet Governance, Trade and Investment, Media, Entertainment and Sport, Future of the Environment, Emerging-Market Multinationals, Social Justice, Global Health, Climate Crisis

2.4 Institutional Capacity

The selectivity of global powers and limited financial resources inevitably impact the performance of international institutions

There are many factors impacting the ability of global governance to deliver public goods, to make a difference, and to matter in political decision-making processes. Many are external, such as geopolitical competition or technological interdependence. Others pertain to institutional set-up, decision-making processes, and the resources and power of individual institutions. The US has been a dominant actor in the global system established at the end of World War II. Its leadership, or lack thereof, has greatly influenced the ability of international institutions to function. This does not mean institutions cannot work in the absence of US engagement, as has been the case with the International Criminal Court, the Kyoto Protocol, and the convention on banning anti-personnel landmines. But the engagement of major powers generally is essential for effectiveness and legitimacy. As US influence has declined in recent years, countries like Brazil, China, India, and Russia have shown similar selectivity in supporting international institutions and law. This is evident at the UN Security Council, where a single veto among members can obstruct efforts to respond to crises. Russia's vetoes of affirmations of Ukraine's sovereignty in 2014 and 2022 are just one example.

A second issue influencing the institutional capacity of global governance is access to financial resources. Considering their scope and the complexity of issues, international institutions tend to have very limited budgets. For example, the 2022 UN regular budget of $3.12 billion (20% of which covers special political missions in Afghanistan, Iraq, Somalia, Libya, Colombia, Yemen, and other countries) is $1.6 billion less than the 2022 operating budget of the US state of Delaware. The UN peacekeeping budget, at just over $6.5 billion per year, funds 10 missions with 85,000 personnel across three continents - but comprises just over

0.3% of annual global military spending. There is also the issue of enforcement capacity. No enforcement power is generally given to international organizations, even for decisions considered legally binding. In recent decades, international non-governmental organizations (IGOs) have gained influence on certain issues, like disarmament and refugees. However, global governance institutions continue to exist because states create them and instil in them the power, authority, and resources to perform certain tasks and serve certain needs and interests. It would be naïve to assume that this trend will change, even as US influence decreases and others take centre stage.

Related topics: Climate Crisis, Pandemic Preparedness and Response, Agile Governance, Trade and Investment, Global Health, International Security, Geopolitics, Economic Progress, Financial and Monetary Systems

2.5 Likelihood of Weather Events

The frequency and intensity of weather events are increasing and warrants urgent attention

Climate change and pollution increasing the likelihood and intensity of extreme weather events contributed towards a large share of the barrier in Latin America with a score of 61% and low enabler and solution scores. This means that despite the considerable threat presented by the sub barrier, it is a complex issue that needs more support from actors in the ecosystem, to enable social innovations in the region. In the Asia Pacific context, this sub barrier contributed towards 27% of the share of the barrier with a low enabler score but a moderate solution score and a high gender score of 0.66. This means that women in Asia Pacific are disproportionately affected by the extreme weather events and that social innovations with a gender lens are required.

According to the Environmental Defense Fund, extreme weather events are bolstered by climate change. There has been a documented increase in the number of heatwaves, wildfires, droughts, intense storms, floods and increased levels of snowfall in some parts of the world. In Latin America, the World Meteorological Organization warned of a greater frequency of events such as drought and intensive storms due to a reinforcing systems loop. Drought means that hydroelectric power stations are unable to function which prompts a move back to unsustainable fossil fuels for power generation. The high heat levels make conditions ripe for wildfires across the region and contributes to added emissions in the atmosphere. The heat also contributes to melting glaciers in mountainous regions which threatens water supplies. Tropical storms also lead to loss of life and costly economic damage that necessitate a long period of recovery. A large proportion of Latin American and Caribbean populations are particularly vulnerable to the risks of climate change and extreme weather events due to the rural-urban migration that takes place in their countries. In addition, many people across the region live in informal settlements which are particularly susceptible to disasters.

The Asia Pacific region has a multitude of geographies and ecosystems, and therefore faces a wide range of extreme weather events. The International Disaster Database reports that an average person living in the Asia Pacific region is six times more likely to be affected by disaster than a person living in any other region. To address this reality, an Asia Pacific Regional Riskscape has been developed to determine the level of disaster risk, whether disasters will be intensive, as well as the pace of onset. The region has also identified key hotspots where the largest impact will be felt relative to other parts of Asia Pacific.

To mitigate and adapt for climate change related weather events, efforts must be ploughed into ensuring food security in the region. Renewable energy sources must be further explored and if successful, should be scaled to decrease the reliance on unsustainable and non-renewable fossil fuels.

Barrier shares and enabler/solution scores, derived from 2.5 million data points, track the frequency of the discussions around specific problems, solutions, and supportive environments in the news, social media, and academic research. The ”gender score” (0-1) indicates the relevance of a problem to gender issues, with higher scores showing stronger gender links.

Related topics: Global Risks, Climate and Health, Food Security, Migration, Humanitarian Action, Agricultural Yields and Soil Fertility, SDG 13: Climate Action, Future of the Environment, Humanitarian and Resilience Investing

2.6 Cyber and Supply Chain Risk

The SolarWinds attack underlined fundamental lapses in software supply-chain security

For any supply chain, robust and verifiable cybersecurity is key for maintaining trust and confidence. The buyers of third-party software, hardware, and information technology services often have limited visibility into the cybersecurity practices of their supply-chain partners; this opaqueness can very easily become a source of risk. The SolarWinds attack, which was detected by a private company in late 2020 and involved the breaching of thousands of organizations including NATO and the European Parliament, in addition to a number of US government agencies, sharply underlined fundamental lapses in software supply-chain security. Two years prior to that, a 2018 CrowdStrike study had found that 66% of respondents said they had experienced a software supply-chain attack, and 90% had incurred financial losses as a result. Determining the provenance of hardware is a key challenge in a complex supply chain; enterprises may be at risk of allowing devices with maliciously altered or counterfeit components to enter their inventory. And detecting malicious and counterfeit components requires levels of investment and technical expertise beyond the reach of most organizations.

The dramatic proliferation of low-cost, Internet-connected devices has created new challenges for maintaining adequate supply chain cybersecurity. This burgeoning Internet of Things, connecting everything from GPS monitors to temperature sensors, is tapping deep into enterprises often without the same degree of scrutiny applied to the acquisition of other classes of technologies. Internet cloud services are an increasingly prominent component of the supply chain - according to Gartner research, public cloud services will account for 14% of total global enterprise IT budgets by 2024, and there will be an estimated 18% increase in end-user spending in 2021 alone. These cloud services, which include software-as-a-service, infrastructure-as-a-service, platform-as-a-service, and desktop-as-a-service, present a challenge to the techniques traditionally used to manage on-premise cybersecurity. Consumers of these services must generally rely on third-party assessments of their service provider - such as a Service Organization Controls report, or a Statement on Standards for Attestation Engagements 18 report - rather than having access to direct examination. Service-level agreements have therefore become the primary mechanism for measuring performance, and incentivizing behaviour.

Related topics: Digital Communications, Internet Governance, Global Risks, International Security, Supply Chain and Transport, The Digital Economy, Artificial Intelligence, Internet of Things, Fourth Industrial Revolution

2.7 Humanitarian Aid and Infrastructure

Funding for disaster responses and construction of climate resilient infrastructure has become a necessity

In Asia Pacific, lack of humanitarian aid and infrastructure significantly contributes to the challenges what come with extreme weather events (28.6% barrier share), but a strong enabling environment and numerous solutions are present. This indicates an ecosystem rich in enabling factors and established solutions by social innovators. Conversely, in Latin America, such challenges form a smaller part (8%) of the overall issue, yet similar strong enabling environments and solution prevalence suggest effective mobilization of humanitarian aid and infrastructure.

A declining trend in humanitarian aid for extreme weather events is observed due to shifting donor priorities and emerging conflicts. The United Nations Development Program's Climate Promise highlights a substantial funding gap in the Global South for climate action, with a need for $160 to $340 billion annually but only $50 billion provided. Funding application processes pose barriers, often dictated by top-down approaches. This has led to an emphasis on bottom-up or locally led adaptation, enhancing community ownership and resilience.

Indigenous communities, with generational knowledge and environmental stewardship, are critical in climate adaptation efforts. Collaboration between scientists, policymakers, and indigenous communities can yield mutually beneficial solutions. However, youth migration to urban areas poses risks to preserving indigenous knowledge, presenting an opportunity to blend traditional teachings with modern technologies for environmental protection.

Infrastructure projects must integrate climate resilience, using environmentally friendly materials and innovative designs. Examples include storm-resistant roofing in tropical climates and heat-reducing building designs. Such infrastructure can also double as community refuges during storms. Additionally, increasing

mental health services and addressing vector-borne diseases prevalent in natural disasters is crucial for comprehensive health management.

Barrier shares and enabler/solution scores, derived from 2.5 million data points, track the frequency of the discussions around specific problems, solutions, and supportive environments in the news, social media, and academic research. The ”gender score” (0-1) indicates the relevance of a problem to gender issues, with higher scores showing stronger gender links.

Related topics: SDG 07: Affordable and Clean Energy, Frameworks for Sustainable Development, Access to Water and Sanitation, SDG 11: Sustainable Cities and Communities, Future of the Environment, SDG 13: Climate Action, Humanitarian and Resilience Investing, Humanitarian Action, SDG 09: Industry, Innovation and Infrastructure

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World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland
Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744
contact@weforum.org
www.weforum.org

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