Climate in Security

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Introduction

The recent deadline to submit plans for substantial emissions cuts by 2035 passing by without submissions from many other major international polluters marks another concerning climate milestone with critical implications. “The climate crisis is about human security, economic security, environmental security, national security, and the very life of the planet,” said former US President Joe Biden at the World Economic Forum in 2022, urging a renewed effort to fulfil the promises of the 2015 Paris Accords. But

the Biden administration is long gone now, and with world temperatures breaching the 1.5˚C ceiling pledge last year, so is any chance at meeting those Paris targets.

As Biden and endless experts have repeatedly pointed out, the environmental consequences of climate change are transnational, with almost every domain of global activity under threat in the coming decades. Whether it be individuals struggling for subsistence in impoverished areas or nations responding to newfound geographic realities, the social, economic, and environmental challenges are expected to affect a broad range of actors. Food and potable water scarcity will accentuate migration and displacement, while competition over limited natural resources and habitable or arable land may facilitate existential threats to well-armed and desperate state and non-state actors. More frequent natural disasters will only complicate national and international responses. Although the architects of European security are preoccupied with current challenges from tangible, external actors, they must not ignore the incremental consequences of inadequate global climate policy.

This brief is concerned about the impact of climate change on security across the EU. Despite the Union's efforts to aim for "global leadership" in this matter, the European Environmental Agency found in their first Climate Risk Assessment that the EU is insufficiently prepared for the challenge of climate change in many important areas. This article discusses some of the most concerning environmental trends for European security across the continent. We conclude by reflecting on ongoing mitigation efforts and offering recommendations to help preserve the European project in the face of a uniquely undeterrable, pervasive and potentially catastrophic security threat.

Changing Environments, Changing Geopolitics

Although the international community breaching the Paris cap on global temperatures relative to the industrial era already represents a discouraging failure of international cooperation, current modelling forecasts a far bleaker picture. Virtually each year sets new records in monthly and annual average temperatures in recorded human history, representing a trend so far irreversible due to the limits of human cooperation and ingenuity. Should these trends hold, and especially if mean global temperatures approach the 2.5-2.7˚C forecasts, the coming "era of global boiling" may drastically change security politics.

Firstly, changes in environmental conditions will affect certain capabilities of critical military and national security technologies. Warming ocean temperatures will overall adversely affect sonar detection ranges at most depths in at least four critical waterways, likely rendering submersible threats to European shipping and undersea infrastructure much less visible to current detection methods. Likewise, these changing environments are precipitating natural disasters of uncertain frequency and damaging energy infrastructure critical to national security. Disruptions to civilian electrical

grids and military infrastructure not only disrupt readiness and induce civilian hardship but also unexpectedly divert limited budgets away from other security or national priorities.

Secondly, agricultural production yields are expected to have significant but variable shifts. While certain crops (like wheat and soybean) may benefit from their natural affinity to carbon fertilisation, others may see substantial decreases, including around a fifth of European maize. Moreover, shifts will not be distributed equally: equatorial regions will suffer far more severe water loss or desertification, leading to concentrated yield losses in mostly impoverished areas. Future generations around the world may have to rely on increased agricultural output from European and other high- or low-latitude countries to remain fed.

Thirdly, it is expected that populations on and near the equator will increasingly live under temperatures exceeding their historical human niche. By the end of the century, between 44 and 75% of humans will be at least chronically stressed by high heat. Certainly, construction technologies like air conditioning and insulation may alleviate the experience of affected populations, albeit further exacerbating emissions output. Yet increased temperatures remain associated with hundreds of billions of hours of labour productivity lost, significant decreases in educational attainment, and increased morbidity in the form of fatal heat exposure. In fact, even short-term exposure to temperatures above 35°C with high humidity can be fatal, and heat is now contributing to 40,000-70,000 deaths across the continent every year. Although 95% of the climate-related fatalities of the last four decades in Europe are linked to heatwaves, only half of European states monitor heat health. Europe will have to navigate support for an international community desperately ailing from heat-triggered societal decay, and Southern European states in particular may soon be faced with the prospect of mass casualty events during the hottest weeks of future summers.

Mass Migration and Forced Displacement

As tropical and impoverished areas become increasingly uninhabitable due to shortages of agricultural supply and sweltering temperatures, the subsequent mass displacement presents an alarming challenge to European security. According to the World Bank, under current global warming trends, 216 million people will be forced to migrate by 2050 due to food insecurity, the search for employment and water security, equivalent to half of the EU's population. Researchers see climate change as an underlying factor that influences already existing patterns. As climate change has multiple causes that interact in different ways with one another, migration induced through climate change is connected to societal and social factors.

Regarding climate migration and its security implications, experts like Erin Sikorski have argued that climate migration impacts security in three

ways. First, she argues that it risks instability as a large number of people move from rural areas to urban areas. Second, a large influx of people risks empowering extremists or criminals. The third way, Sikorski argues, is that climate migration could lead to more tensions between states that are not prepared for a larger amount of people that could then weaponise migrants.

Another factor is the rise of far-right parties in Europe, something that can be connected to the increasing number of migrants who are seeking refuge in Europe. The AfD is one of the parties that advocate for the idea of "remigration", or forcing migrants and naturalised citizens back to their countries of origin. More concerningly, centrist parties are more frequently adopting more punitive restrictions on migration in their electoral platforms, indicating a shift to the right of the Overton window on migration. With a record number of refugees dying last year, the development of an intensely hostile approach to migration along with a sharp increase in climate refugees augurs a border security response unprecedented in its violence. Such an approach would put any semblance of democratic, rights-based governance in the EU and the social order of its member states at grave risk.

The Northern Sea Route and the Melting Arctic

Warming temperatures also portend a drastic geographic transformation of the Arctic region, in particular the so-called Northern Sea Route (NSR), which passes from the Bering Strait through the territorial waters of the northern Russian coastline and into the North Sea. This route was historically not commercially viable owing to the thick, year-round ice cover that could not be penetrated by most vessels. Increasing temperatures have reduced the extent of Arctic ice cover from 7.5 to 4.3 million km^2 since 1980, thereby making year-round transcontinental passage along the route soon possible for commercial vessels.

The consequences of the imminent opening of the NSR are immense for European economic health and security. Maritime shipping from Shanghai to Rotterdam is 10 days shorter than through the Suez Canal, and global supply chains would be reordered with a safer and cheaper NSR. Although this could alleviate global climate impacts through reduced shipping emissions—despite likely ruining Arctic Circle littoral environments—most of the route would initially pass through Russian territorial waters. Besides physical control over a lucrative shipping route, the Kremlin also generates income through transit fees. It also opens up access to the exploitation of large reserves of mineral and natural resource wealth. Several European countries have ongoing delimitation claims to these assets but minimal physical capability of defending these claims or extracting these assets.

Europe's use of the Northern Sea Route, and the Arctic Circle more generally, is contingent on its procurement and maintenance of a fleet of icebreakers, a domain that two of its competitors are far superior in. Russian

icebreaker superiority is unrivalled, boasting the only nuclear-powered icebreakers and a fleet several times the combined European fleet, while the Chinese, despite not being an Arctic state by any traditional understanding, are rapidly expanding their own icebreaker fleet as part of a broader growth in shipbuilding. If the US continues to abandon its commitments to Europe, the continent will have to rely on Finland (which has constructed nearly 60% of the world's icebreakers), as well as an expansive Northern European effort to invest in such Arctic infrastructure. However, whether or not such a project could outcompete other security priorities for funding remains to be seen.

Navigating Security in an Uncertain Climate

In the next few decades, if temperatures maintain their dangerous pace, the consequences from environmental transformation will range from minor operational considerations, such as damage to civilian and military energy infrastructure or submarine detection ranges, to major civilisational threats, such as natural resource production shifts and mass population displacement. Certain remedies are possible but require considerable investment.

First, above all, a renewed collaborative effort to avoid the worst warming temperature scenarios will minimise the magnitude of the damage. Although multilateral forums continue, and even organisations like NATO are hosting climate-specific meetings, action must be prioritised over discussion and "informal dialogues". Prevention is less costly than reaction, and the EU can find common ground with major actors exposed to climate vulnerabilities on the equator and thus play a leading role in its own security.

Secondly, even if global climate cooperation proves arduous, the EU can still assist climate mitigation in vulnerable nations. For example, the agricultural production of some nations may often be far below their potential output due to insufficient agricultural technologies, inadequate infrastructure or general inefficiencies. The minimisation of such "yield gaps" through technological and financial cooperation can offset climate-induced reductions to agricultural yield and thus preserve the stability of many vulnerable nations–though likely against the wishes of self-interested European agricultural producers. Likewise, many large urban centres, which contribute more than two-thirds of global energy consumption, would benefit from urban planning that maximises wind corridors and density, incorporates sustainable construction materials and passive architecture, privileges public transport, and increases urban greenery. Such developments ostensibly require financial investment but improve living and economic standards in nations that may otherwise suffer from mass population displacement.

Thirdly, efforts must be made to continue bolstering the resilience of its domestic institutions and infrastructure. The EU, in line with Article

21(1), does well to prioritise multilateral action in both climate change and now clearly attempts to alleviate its precarious international security position. But added emphasis on the protection and resilience of continental economic infrastructure from natural disaster, expanded resources to assist vulnerable populations in response to extreme heat conditions where needed, and a transparent plan to ethically navigate migration in case of mass displacement of climate refugees across the world will be crucial in mitigating the impact of even severe climate projections.

This brief is not exhaustive in its review of environmental trends on European security but motivates an urgent call to action to review the preparedness of the EU against the consequences of a severe deterioration of the Earth's climate. European policymakers have a duty to preserve the stability and security of not only borders but also of the livelihood of their constituents. Although the current environmental trends portend a bleak and unpredictable future, what is certain is that both internal and external European security are gravely at threat in the coming decades.

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