The Implications of Climate Change for Military Intelligence

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Alongside the global campaign for reducing greenhouse gas emissions, defense communities worldwide are also stepping up their efforts in coping with climate change. In this context, especially noteworthy are recent reports by the Pentagon and the US intelligence community (IC) in dealing with the national security challenges related to the climate crisis, particularly their call for more substantial intelligence action in this area. Such calls are also relevant to Israeli intelligence, both because the Middle East and North Africa (MENA) region is the most vulnerable to climate change, as well as because of the unique capabilities and key role that the IDF's Directorate of Military Intelligence (IMI) plays in preparing Israel's strategic assessment. This article summarizes a joint workshop of the Institute for National Security Studies, the Gazit Institute in the IMI Research Division, and the Institute for the Research of the Methodology of Intelligence (IRMI). It focuses on the implications of the climate crisis on the intelligence community in Israel, and specifically on the need to include climate data in intelligence analysis and assessments, the intelligence community's role in civilian preparedness efforts for climatic emergencies, and the effects of climate change on intelligence gathering, the basis for the IDF's operational plans.

Global attention to the climate crisis has recently increased. As world leaders are exploring solutions for reducing greenhouse gas emissions, defense communities—primarily in the United States and Europe—are also stepping up efforts to contend with the challenges posed by climate change. These efforts focus on ensuring better preparedness for climate change, including by revising combat doctrines, altering training, adapting infrastructure, equipment, personnel, and procurement protocols, and designing climate scenarios.

Within the defense establishment, Western intelligence communities are also paying increased attention to climate change. Indeed, the US intelligence community (IC) began addressing the issue of climate change in the 1990s, yet recently intensified its efforts, including the resurrection

of a specialized CIA department. For over a decade already, reports published by various intelligence agencies have been mentioning the effects of climate change as a "threat multiplier" to the stability of countries and regions. The Biden administration's decision to put the climate crisis at the top of its national security priorities has sharpened the focus of the Pentagon and the intelligence agencies on the climate crisis and has guided strategic thinking in this sphere.

Prominent in this framework is a revised report of the US Department of Defense (DOD) consisting of a comprehensive threat analysis relevant to DOD and US military activities globally. In part, the report relies on significant work in this field conducted by the National Intelligence Council (NIC), which published a National Intelligence Estimate (NIE) devoted entirely to the national security implications of the climate crisis. The report, which represents a consensus among 18 US intelligence agencies, predicts that climate change will intensify geopolitical tensions between state and non-state actors. These tensions will worsen if the major powers are unable to agree on common strategies for addressing the climate crisis and for funding the processes needed to implement them. The report further asserts that drought, higher temperatures, and a rise in sea level are liable to cause food and water shortages in less than a decade. This, in turn, will exacerbate ethnic and social tensions, and could lead to violent conflicts, hunger, and political instability. While climate change will mostly affect developing countries, the report states that the US and its partners—that is, the developed countries—will have to deal politically, economically, and militarily with the second-order effects on the global order.

Not only the American IC pays attention to the climate crisis. British intelligence uses the concept of "climate lens" as a methodological tool for including climate issues in intelligence analyses in various research spheres and questions. For this purpose, the British intelligence community is obligated to incorporate climate insights into various planning processes.

At the same time, critics argue that despite growing attention to climate change, intelligence communities have not yet adapted their capabilities to provide decision makers with a solid intelligence picture that integrates

climate assessments in national security issues, and that a stronger effort is necessary.

Climate Change and the National Intelligence Assessment in Israel

Over the past year, the Israeli defense establishment has recognized the climate crisis as an important strategic factor that could increase the instability of countries in the Middle East, as well as affect military buildup, power projection, and warfare. The Israeli IC plays an important role in designing the national security assessment, and accordingly will need to integrate climate in all levels of its intelligence analysis. Indeed, the Israeli government announced in October that its National Security Council would include climate change effects in its annual assessment, particularly extreme weather events to which Israel is vulnerable, and their effects on terrorism, mass migration and refugeehood, state stability, and IDF readiness.

Climatic intelligence should begin with an analysis of the global theater and their ramifications for the Middle East. The climate crisis will aggravate tensions between the great powers, including competition for natural resources (in the Arctic region, the Far East, and Africa). In the socioeconomic realm, the crisis will affect energy and commodities markets and alter trade routes, such as the opening of a shipping route at the North Pole that will compete with the Suez Canal. These developments are expected to have significant consequences for the Middle East, such as by undermining the foundations of the oil economies and revenues from trade, and perhaps accelerating the current American inclination to downsize its presence in the region, as it shifts its attention to the Pacific region, has lower dependence on oil, and its armed forces face growing operational challenges in regional bases that are already affected by climate change.

Moving from the global theater to the regional one, the IC should examine more closely the different ways in which climate change affects countries of importance to Israel. For example, the water crisis in Jordan, Iraq, and Iran will become more severe; the rising sea level of the Mediterranean will threaten millions of residents in Alexandria and the Nile Delta, while the rest of Egypt could face food insecurity; and tropical storms will multiply in the Persian Gulf states, causing economic and civilian havoc.

These phenomena will aggravate internal instability and lack of governance in the Middle East, increasing the risk of violent internal conflicts within countries, cross-border conflicts, as well as poverty, and humanitarian, immigration, and refugee crises.

At the same time, the IC should examine whether climate change can create an opportunity for regional cooperation, such as in ties with Jordan and Egypt, as well as in the framework of the Abraham Accords. The IC should provide relevant intelligence to seize opportunities through the pursuit of political and economic measures.

In addition, intelligence should study the implications of climate change for other countries' militaries, by looking at the effects on weapons, doctrines, and fitness. While narratives alleging Israel's responsibility for crises in the Palestinian arena could become more common, there could be greater potential to portray Israel as a ready and willing partner for regional cooperation.

The Climate Crisis and Preparedness of the Military Intelligence Directorate

In addition to the research-assessment aspect, the IMI must examine how climate change affects its own preparedness and deliverables.

The physical manifestations of climate change—higher temperatures, sea level rise, and extreme weather events that will grow in frequency and intensity—could damage infrastructure and some intelligence collection systems that the IMI uses in peacetime, emergencies, and war. This involves, inter alia, the ability to close precision intelligence-fire circles in real time. As with other civilian and military infrastructure, climate change will also have a negative impact on the IMI's physical infrastructure, bases, and facilities. The IMI can preempt these with preventative construction and maintenance measures, in addition to reducing the IMI's carbon footprint and maintenance costs. Damage to infrastructure will hurt the IMI's systems' operational continuity. For example, climatic events, such as flooding of computer centers, shutdowns due to heatwaves, and severe storms, will damage communications systems between bases. Extreme climate conditions will affect some intelligence collection capabilities, the sensors themselves, and the ability to deploy them in the field. Above all,

severe weather conditions will limit flights of drones, UAVs, and light aircraft.

At the same time, climate change will also affect land-based intelligence-gathering infrastructure. For example, storms are liable to damage antennas; smoke, haze, dust storms, and fog will mask observation posts; and atmospheric disturbances will hinder the ability to gather signals intelligence (SIGINT). An increase in the number of cloudy days and large-scale sandstorms caused by climate and atmospheric changes will diminish the effectiveness of the satellite systems. Furthermore, some intelligence sensors are sensitive to extreme temperatures. For example, optical sensors that require major refrigeration capabilities are inadequate in situations of extreme heat. Atmospheric changes could decrease the accuracy of GPS, which subsequently could harm the geographic precision of intelligence systems. The effect, however, is not confined to extreme climate events; gradual climatic processes also affect intelligence-gathering output. For instance, a change in the average temperature of the target could cause deviations in measurements that would disrupt the ability to investigate and detect long-term changes in a targeted area.

Intelligence Assistance for National-Civilian Needs

Beyond military and strategic intelligence, the IMI is likely to play a role in the national civilian effort to cope with the climate crisis, as it did in the campaign against the COVID-19 epidemic. Although such involvement is controversial, the IC has significant capabilities and tools for assisting government ministries and civilian first responders. Intelligence researchers in climate research fields can be integrated into the civilian government ministries and present a unique advantage in analyzing complex and data-intensive questions using advanced technologies and methodologies.

Furthermore, the IC possesses visual collection tools and mapping capabilities, including military satellites, hyperspectral sensors, airborne sensors, computer capabilities, algorithmics, artificial intelligence, and big data processing. These can aid in improving national readiness for disasters, such as by analyzing regions susceptible to fires or floods,

developing and improving meteorological and climate models, and analyzing the status of a population in crisis.

Recommendations

Like its counterparts in the West, the Israeli IC must also address the national security implications of climate change. The IMI should rise to the challenge and immediately adopt a strategy that tackles the research, collection, operational, and force buildup aspects of this issue.

- The primary focus should be adding a regional climate analysis tool to intelligence assessments. To do so, the IMI should integrate advanced climate assessments into intelligence analyses, based on high-resolution scientific data. This will require special training of personnel and a dialogue with climate experts in Israel and around the world.
- Climate scenarios should be formulated to serve as a policy reference, and these scenarios should be used in force buildup planning. Climate change effects, both present and projected, must be taken into consideration in the development of platforms and new weapon systems, procurement specifications, application of advanced algorithmics in data processing, and implementation of new operational concepts, which expand the collection overlap between difference sensors. It is important to consider how the national effort for addressing the climate crisis can capitalize on the IMI's distinct relative advantages, to promote national preparedness.

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