

EPICENTERS OF CLIMATE AND SECURITY: THE NEW GEOSTRATEGIC LANDSCAPE OF THE ANTHROPOCENE

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Edited by:

Caitlin E. Werrell and Francesco Femia

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CLIMATE CHANGE, THE EROSION OF STATE SOVEREIGNTY, AND WORLD ORDER¹

Francesco Femia and Caitlin E. Werrell²

The formation and spread of the nation-state has occurred during a relatively stable climatic period—an 11,000-year-plus epoch referred to by geologists as the Holocene.³ The Holocene, thought to be the longest warm and “stable” climatic period of the last 400,000 years, may have played a significant role in facilitating the development of human civilization.⁴ The epoch encompasses the advent of agriculture, the rise and fall of empires and monarchs, and the birth and spread of the nation-state to all corners of the globe. In short, all of modern civilization occurred within the Holocene. In this context, the foundation for the current system of nation-states rests in part on a common assumption that the baseline climatic and natural-resource conditions present until today will generally continue. The flaw in this assumption is that atmospheric conditions, due to human activity, have shifted in an unprecedented way since the mid-20th century, and are changing rapidly. This phenomenon, coupled with massive demographic changes, has led some to assert that that the Earth may have entered a new epoch called the “Anthropocene.”⁵ The rapid changes inherent in this epoch could stress the very foundations of the modern nation-state system.

THE NATURE OF THE THREAT

Regardless of whether or not the Earth is, indeed, in a new epoch, the influence of rapid climatic change on natural resources must be factored into our understanding of state fragility, state sovereignty, and the world order that rests on that sovereignty. This includes rising sea levels and an increase in the frequency and severity of extreme weather events, which will increase stresses on the critical resources underpinning

national security - water, food, transport, and energy systems. If left unmanaged, these pressures can decimate livelihoods and contribute to a broad range of destabilizing trends within states, including population displacements, migration, political unrest,⁶ state fragility, internal conflict, and, potentially, state collapse.⁷ The transboundary nature of some climate impacts such as melting sea ice and migrating fish stocks in contested waters⁸, can also increase the likelihood of conflict between states.⁹ Therefore, the threat comes not from climate change itself, but rather, from how these changes interact with the existing security landscape – including the ability or inability of governments to effectively manage rapid change, ensure security and prosperity for their publics, and maintain their legitimacy.

THE SIX EROSIONS OF STATE SOVEREIGNTY

State sovereignty, in the modern sense, is built on both a state's output and input legitimacy.¹⁰ Output legitimacy involves a state's ability to meet its citizens' demands for basic resources or prosperity (e.g., food, water, energy, employment), while input legitimacy involves a state's ability to offer its citizens a say in how they are governed (e.g. a vote and legal recourse). Climate change, by compromising a state's ability to provide basic resources to its population, can significantly erode its output legitimacy. This erosion can contribute to state fragility and state failure, which, in turn, has implications for regional and international insecurity.¹¹ Cumulatively, these risks can significantly challenge a world order built on an international system of cooperating sovereign states. That challenge derives from the contribution of climate change to six key phenomena:

- 1 Catch-22 states;
- 2 Brittle states;
- 3 Fragile states;
- 4 Disputed zones among states;
- 5 Disappearing states;
- 6 Non-state actors.

1. Catch-22 states

As natural resources within the territory of nations are strained, modern states have often turned to the global market to meet the difference between their capacity to provide food, water, and energy, and the demands of their populations. However, the global market is increasingly vulnerable to price fluctuations driven in part by an increase in the frequency and intensity of extreme weather events.¹² This presents a catch-22 for resource-stressed nations. Syria and Egypt are instructive examples.

Prior to the country's ongoing civil war, the al-Assad regime in Syria prided itself on being one of the few Arab nations to produce a significant percentage of its wheat locally, as

well as lucrative cash crops such as cotton, despite the water-intensity of those pursuits.¹³ However, these crops were challenged by phenomena linked to climate change: multi-decade winter precipitation decline and the worst drought in Syria's recorded history, from 2007 to 2010.¹⁴ Population pressures and inefficient agricultural practices, such as flood irrigation, dramatically depleted the country's water table to a critical level.¹⁵ These dynamics contributed to agricultural and pastoral devastation across Syria, and the displacement of nearly two million people. The al-Assad regime's ideal of greater self-sufficiency, which diminished the country's dependence on the global food market, was ultimately unsustainable due to local climatic, natural resource, and infrastructural conditions. Poor political decisions made by the regime, including mismanagement of natural resource, accelerated Syria's transition from relative stability to being one of the most conflict-ridden states in the world

The global food market has also been buffeted by climate change, making overdependence on it a risky venture. Egypt, like many of its neighbors, is one of the most highly dependent countries on the global wheat market.¹⁶ In 2010, major drought and heat-wave events in China and Russia — the events in Russia explicitly connected to climate change by recent studies — devastated local wheat harvests, driving China and Russia to panic buy extraordinary quantities of wheat on the global market.¹⁷ This was a major factor in the 300 percent price increase for bread in Egypt between 2010 and 2011.¹⁸ Egyptian bread subsidy policies were unable to bring the price down in many rural areas.¹⁹ While protests were occurring in Cairo and other cities, the appeal of the revolutionary movement in Egypt broadened to the countryside, where at least three major food riots occurred in 2011.²⁰

Other nations in the Middle East, North Africa, Central Asia, and elsewhere are already facing a similar catch-22 situation, wherein both local agricultural production and dependence on the global food market are not optimal. If climatic and demographic projections continue along current trends, the number of states facing this catch-22 dilemma could increase.²¹

2. Brittle states

The security landscape hosts a number of seemingly stable nation-states that are nevertheless quite vulnerable under the surface from a resource perspective. In “brittle states,” as opposed to fragile ones, the appearance of stability — due to either the imperviousness of such states to outside inquiry or ignorance of the role of natural resource vulnerabilities in contributing to political unrest — can lead analysts and policymakers to fail to anticipate fragilities and make ill-informed political, economic, and natural resource management choices.²² One might also refer to these cases as “Potemkin Village” states — stable only on the surface. Brittle states may score relatively high in “state fragility indices” when compared with those more widely considered “fragile” or “failed.”²³ These indices focus primarily on social, political, and economic circumstances,

often underestimating or excluding natural resource vulnerabilities that could render the body politic far more fragile.²⁴ For example, merely days prior to revolution erupting in Syria in 2011, political analysts identified the country as stable in comparison to its Middle Eastern and North African neighbors.²⁵ A late 2010 assessment by the Obama Administration concluded that Syria and Saudi Arabia were the states in the region “least likely” to experience political turmoil in the wake of unrest in Tunisia, Egypt, and Libya.²⁶ Generally missing from the analysis of Syria’s stability were significant natural resource vulnerabilities, exacerbated by three decades of climate-induced precipitation decline and natural resource mismanagement.²⁷

Prior to the events of the “Arab Awakening,” Egypt was also considered a generally stable nation.²⁸ In addition to vulnerabilities related to dependence on the global wheat market, Egypt’s internal natural resource picture suggests a brittleness. A combination of factors—including sea level rise, the over extraction of water from coastal aquifers, and the sharing of Nile waters with neighboring states—has left the already low-lying Nile Delta in a precarious situation. The Delta is heavily populated, containing many of Egypt’s major cities and the vast majority of its population. Thirty percent of Egypt’s labor force works in the agricultural sector, mostly in the Delta and Mediterranean coast, which are responsible for 30-40 percent of the country’s total agricultural production. That production could be devastated by increases in saltwater intrusion exacerbated by rising sea levels.²⁹ Coupled with the vulnerability of Egypt’s population to global food price shocks, failure to address rising sea levels and the Nile Delta’s health, could contribute to the erosion of the legitimacy and resiliency of current and future Egyptian governments.³⁰

Other nations, such as Saudi Arabia, while not ranking high in measurements of state fragility, are both heavily dependent on a volatile global food market and likely to experience precipitation decline and dangerous heat levels as a result of climate change.³¹ Coupled with ethnic, demographic, and political pressures, climate change and water insecurity could threaten Saudi Arabia’s stability.³² Other nations with seemingly stable institutions, yet serious natural resource vulnerabilities under the surface, include Iran — which is suffering from many of the same climatic, water, and food security pressures as Syria — and North Korea, which is very resource poor and increasingly vulnerable to a changing climate.³³

3. Fragile states

Climate change also increases the fragility of already fragile states. The populations of nations that are poorly governed and resource-stressed are likely to be among the hardest-hit. Climate impacts on water systems, for example, even challenge nations with robust institutions like the United States. States with weak institutions are likely to fare worse. A great number of fragile states — such as Sudan, Ethiopia, and the Central African Republic in Africa; Pakistan and Bangladesh in South Asia; and Yemen and Libya — are all projected to experience some of the most dramatic effects of climate change in terms of rainfall variability and sea level rise.³⁴

In the absence of significant adaptation efforts, a slowing of the rate of climatic change, or significant improvements in natural resource governance, such nations are likely to become even more fragile than they already are, potentially increasing the incidence of state failure. As states fail, refugee crises are also likely to increase in frequency and scale. Nationalistic responses to such dynamics, in Europe, for example, can place significant strains on those institutions intended to maintain regional order, such as the European Union.³⁵

4. Disputed zones among states

Climate change can also increase the possibility of tensions between major powers over zones subject to competing territorial claims, which could have important implications for world order. Two clear examples of this disputed zone/climate change nexus are the South China Sea and the Arctic Ocean. The South China Sea is one of the most critical geostrategic choke points in the world. Seafaring vessels carry \$1.2 billion of U.S. trade through its waters annually.³⁶ Sovereignty over significant areas of the China Sea is bitterly disputed by adjacent countries, while the United States and China have competed over its control for some time — with the U.S. viewing China’s expansionist territorial claims to the sea as a threat to its interests in the Asia-Pacific region and to the security of key allies and partners.³⁷ Overlaid on this tense geostrategic environment is a warming ocean. Coupled with over-fishing, this phenomenon is driving fish stocks to migrate northward into colder (and contested) waters.³⁸ As the populations of small nations bordering the sea, such as Vietnam, are highly dependent on its fish stocks as a major source of protein, fishing fleets are likely to venture farther north, and with greater frequency, into zones that are subject to competing claims between their nation of origin, China, and the United States.³⁹ Such a dynamic could increase the likelihood and number of regional security disputes in the future.

On the other hand, the Arctic is host to extraordinary cooperation between nations, in a region that could have easily become a Wild West of water and ice. This cooperation may be due to successful intergovernmental regional institutions, such as the Arctic Council, and a desire among nations involved in the Arctic to maintain stable sea lanes for global economic commerce. However, due to rapidly melting ice, the Arctic is changing significantly. This has already had a measurable effect on the security landscape in the Arctic.⁴⁰ Since Russia’s incursion into Crimea and eastern Ukraine, each member state of the North Atlantic Treaty Organization (NATO) has suspended all forms of military cooperation with Russia, including in the previously apolitical zone of “military cooperation” in the Arctic. In a context of possibly greater interaction between Arctic nations (due to melting ice), but less cooperation due to diplomatic conflicts elsewhere in the world, the probability of heightened tensions between major powers increases. While the current probability of conflict in the Arctic is low, the future is uncertain due to a rapidly changing physical and geopolitical landscape.⁴¹

5. Disappearing states

Rising sea levels will also lead to the eventual disappearance of certain low-lying states as well as the loss of significant territory for other states. This includes island states, such as the Maldives, and large swaths of countries, such as the low-lying coastal zones of Bangladesh.⁴² For small island nations, climate change and sea level rise present an existential threat (and thus the possibility of a total loss of sovereignty). The international community has no experience in managing the disappearance of nations as a result of environmental processes.⁴³ In fact, there are no international legal norms designed to account for such an eventuality — including no formal recognition of “climate refugees” or “environmental refugees.”⁴⁴ The loss of entire states, or large zones within states, may contribute to a mass increase in stateless peoples, which could present a humanitarian, political, and security crisis of the highest order. The full nature of the consequences of such an event are not broadly understood, and given the rapid rate of sea level rise, this unknown represents a challenge to the current world order.

6. Nonstate actors

As climate change contributes to water and food insecurity and increases the likelihood of state failure and conflict, it is likely that nonstate actors with grievances against the state will take advantage of the loss of state legitimacy and the expansion of ungoverned spaces to gain power and leverage.⁴⁵ These expansions of ungoverned spaces may include an increase in organized criminal entities that engage in natural resource provision and a potential increase in the number and strength of nonstate actors who may ideologically reject the legitimacy of the states they operate in.⁴⁶ There is a wide and deep literature demonstrating the proliferation of nonstate actors in environments where states are weak and unable to provide food and water.⁴⁷ Today, Syria and Iraq are strong examples of this dynamic, given climatic projections for the region as well as the water insecurity, political fragmentation, and strength of terrorist organizations within their borders. As Dr. Marcus King notes, given that water resources are scarce, nonstate actors — including international terrorist organizations such as the Islamic State (IS) — are increasingly seizing such resources and using them as leverage against adversaries and as weapons against populations they wish to terrorize.⁴⁸ In the future, such leverage may be utilized to further erode the legitimacy of the state.⁴⁹ This is not to say that climate change causes terrorism. Rather, climate change can place additional strains on resource security in such a way that may contribute to an increase in the power of such nonstate actors.

MANAGING A CHANGING ORDER

The cumulative effect of climate change contributions to the erosion of state legitimacy may be far more significant than is currently appreciated. By placing strains on the

resources necessary for the viability of the nation-state system and the well-being of its populations, and by physically changing key geostrategic environments, climate change presents a threat to global security. In the face of such far-reaching implications, policies designed to address climate change cannot be fully commensurate to the threat if they are formulated primarily or exclusively in niche institutions. National governments, as well as regional and international security institutions will need to integrate the effects of climate change into their strategies, plans, and operations, and shift resources accordingly. Improving, augmenting, and possibly even creating new governance structures for addressing climate change may also be necessary for maintaining a stable world order.



NOTES

- 1 This article is an abridged version of: Francesco Femia & Caitlin E. Werrell, “Climate Change, the Erosion of State Sovereignty, and World Order,” *The Brown Journal of World Affairs*, Volume XXII, Issue II, Spring/Summer 2016, pp 221-235
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