

# THE NEW ROUTLEDGE HANDBOOK OF POLITICAL ECOLOGY

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## Chapter 36

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### Geopolitical Ecology: Socio-Ecological Relations of Bombs, Banks, and BINGOs

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# 36

## GEOPOLITICAL ECOLOGY

### Socio-Ecological Relations of Bombs, Banks, and BINGOs

*Benjamin Neimark, Lorah Steichen, and Patrick Bigger*

As global temperatures and military expenditures climb to record levels, the need to assess links between climate change and militarism grows more urgent every day. This is especially true of the US war machine, the largest military in the world. But how does one study the US military, and moreover, its outsized role as a climate actor? This is the question that drove our original thinking of the intersections between institutional geopolitics, political economy, and socio-ecological breakdown (Arefin, 2019; Benjaminsen et al., 2018; Mostafanezhad, 2018). Geopolitics has regularly appeared in political ecology (Sundberg, 2011; Loftus, 2020; Robbins, 2019), and with more pluralised, critical, and feminist approaches emerging (Sultana, 2021), political ecologists can draw on such cross-fertilisations to produce new ways of seeing and knowing the world. Yet, while significant studies around these intersections continue to emerge, a coherent, sustained framework is still nascent.

This absence is somewhat understandable as the power of large institutions, some of the core concerns of critical geopolitics, are unwieldy, and multi-scalar connections—difficult to trace. This can be challenging for political ecologists whose gaze generally begins (and ends) with socio-ecological concerns at the local level (Rangan and Kull, 2009). How do political ecologists approach global critical geopolitics and their ecological ramifications?

This chapter provides an approach we find useful: geopolitical ecology (GPE) (Bigger and Neimark, 2017; Graddy-Lovelace and Ranganathan, 2024). GPE is a conceptual framework that combines the strengths of political ecology with those of critical geopolitics to account for and better understand large transnational institutions in environmental change. By adding the “geo” prefix, we seek to conceptualise multi-scale environmental politics and “the discursive material co-constitution of global institutional geopolitics” (Bigger and Neimark, 2017: 14). While other work has engaged these concepts (see the next section), an explicit linking of critical geopolitics and political ecology is as necessary as it is timely.

Our primary aim in this chapter is to synthesise the studies that make up the foundation of this approach and highlight a few critical scholars who have taken it forward in new and exciting ways. We begin by framing the three-legged stool of GPE—critical geopolitics, political economy, and ecology—and discussing the intellectual pillars by reviewing some of the texts on which the framework rests. Next, we turn to three distinct areas of review: first we examine the role of militaries (bombs) and their wide security networks; second we consider financial institutions (banks);

and finally, we explore the application of GPE within Big International Non-Governmental Organisations (BINGOs), particularly conservation organisations. We conclude by amplifying pathways for scholars across disciplines to engage with critical geopolitics, political economy, and political ecology in an integrated manner.

### **The pillars of geopolitical ecology**

Our conceptualisation of GPE begins with Blaikie and Brookfield's (1987: 13) classic definition of political ecology as "... combining the concerns of ecology with a broadly defined political economy." While this definition remains a point of departure for many, we seek to push its utility further, following other paradigmatic "turns" in political ecology, reinforcing critical self-reflection—including feminist (Rocheleau et al., 1996; Nightingale, 2006), First World (McCarthy, 2002), post-structural (Peet and Watts, 2004), urban (Heynen et al., 2006; Swyngedouw and Heynen, 2003), critical realist (Forsyth, 2004), and decolonial (Sultana, 2022).

A geopolitical-ecological approach is timely as it seeks to conjoin critical geopolitics to political economy and ecology, taking on specifically (though not exclusively) large institutional structures as objects of analysis. At one level, this is an approach which helps to study institutions without being institutionalist (Kuus, 2018), highlighting how geopolitical institutions are wedded to capitalist political economics (Bigger and Neimark, 2017: 13). The contemporary ideological institutional alignment of neo-authoritarianism and differentially liberalised markets feed into environmental and climate policy, often with detrimental outcomes for those most vulnerable to economic and environmental change (McCarthy, 2019; Neimark et al. 2019; Bigger and Nelson, 2023). At this juncture of concerns, critical scholars have deployed a GPE approach to look at issues as diverse as climate and energy justice (Surprise, 2020; Weinger, 2021); (neo-) authoritarianism and rural populism (Asher and Wainwright, 2019; Van Sant and Bosworth, 2017); science legibility and militarisation (Eiterjord 2023); race and settler colonialism (Hughes et al., 2022); militarised conservation (Massé and Margulies, 2020); space environments (Klinger, 2019); and military violence to environments and climate (McCormack and Gilbert, 2022; Vogler, 2024).

Scholarly focus on geopolitical institutions has often centred on the access and control over productive resources (Ribot and Peluso, 2003). Many times, this has been demonstrated through the production of territory (e.g. Boelens et al., 2016) and the construction of knowledge and policy to control that territory (Harris, 2017). A cornerstone of political ecology has been how these policies play out to the detriment of marginalised populations in highly contextualised ways (Fairhead et al., 2012). Paradoxically, political ecology's strength to interpret idiosyncratic and highly localised effects of policy may redirect our gaze from large institutional power over environmental change that plays out in context-specific ways, but with common aspects driven by the prerogatives of those institutions. For example, the US's turn to a more adversarial relationship with China is driving mineral extraction in new (or newly intensified) spaces that will have essential local specifics but share common geopolitical drivers.

Yet, we have limited our understanding of large institutions' direct role in relation to global environmental change. For instance, though not exclusively, GPE has been unique in its attempts to understand the US military's outsized role in climate change outside of realist and "green" frameworks in International Relations (IR) (c.f. Briggs, 2012). Agnew's (2003: 2) definition of critical geopolitics is fundamentally concerned with "the geographical assumptions and designations that enter the making of world politics." Bringing a political ecological sensibility allows us to query and challenge how those same assumptions and designations produce not only the form

and context of our environmental crises but also the forms of hegemonic responses to those crises. In the same way that critical geopolitics denaturalises crude *realpolitik* of IR, GPE might serve as a corrective to liberal environmental narratives that frame various natures as the purview of states and supranational deal-making. Alternatively, it also serves as a framework to view the operations of sprawling institutions that show up as malign influences in individual localised case studies of political ecologies, but rarely systematically integrated into critiques of those institutions or the geopolitics of environmental change (c.f. Goldman, 2005).

## **Institutions of concern: bombs, banks, and BINGOs**

### ***Bombs: militaries as a force of nature***

It is increasingly obvious that war is bad for the climate, but climate change poses problems for militaries as well. Militaries have already observed how climate-induced hazards—including flooding and wildfires—put military installations and massive supply chains on which military operations depend at risk. They also project that climate change will have major national security implications, by exposing new, and exacerbating existing, geostrategic risks. Under the discursive framing of climate-security, militaries have declared “war on the climate” and have implemented a raft of mitigation and adaptation measures (Dalby, 2020; Gilbert, 2012; Surprise, 2019). This framing positions militaries as “first responders” to the climate-induced hazards (McCormack and Gilbert, 2022; Na’puti, 2022) and what they depict as the destabilisation of fragile societies and governments which will only multiply in the dystopian future (Edwards, 2024; see also Daoust and Selby, 2022; Dalby, 2012).

Among various military-greening schemes, the 2012 roll-out of the so-called great green fleet by the US Navy was an attempt to reduce conventional fuel consumption by using biofuels. The Navy saw the great green fleet to untether operations from its unquenchable thirst for fossil fuels—and its incredibly bloody and expensive defence of its vast oil infrastructures. This weaponisation of nature exemplifies the GPE framework *writ large*: discursively, the roll-out of “green” fuels helped absolve the US military of its own responsibility in creating the climate crisis. The US military’s massive carbon footprint is one of the largest in the world in terms of institutional actors; the US military’s use of hydrocarbons, in 2017 alone, emitted more greenhouse gases than over 140 individual countries (Belcher et al., 2020). Other estimates position annual carbon emissions equal to that of Portugal (Crawford, 2021). However, this was not simply a case of “military-grade greenwashing” but had significant material effects too. The great green fleet represented an attempt to find new ways of warfighting in which threats posed in the most far-flung corners of the world could be countered within a carbon-constrained future. Yet, it also demonstrated how the US military moves markets at scale, for as soon as biofuel companies popped up to feed into the re-fuelling of the great green fleet, they just as quickly closed their doors when funding dried up following political wrangling in US Congress (Bigger and Neimark, 2017).

In this vein, GPE can alert us to potentially unanticipated actors in the global production of nature and geopolitical space. Kevin Surprise (2019), for example, convincingly demonstrates the role of prominent academic institutions in producing ecomodernist imaginaries of geoengineering that serve as a backstop for the continued extraction, refining, and consumption of fossil fuels on which US military imperial hegemony is predicated. Stephens and Surprise (2020: 4) attempt to dispel the myth that “solar geoengineering cannot be tactically deployed or weaponized,” using GPE to demonstrate the tight bonds linking geopolitics, energy, and climate change.

Recent scholarship in GPE demonstrates how damaging the maintenance of geopolitical domination is to local environments and the horrific effects on health, water, sanitation, and ecologies. By following the massive supply chains of weapons, hydrocarbons, and defence infrastructure, such as concrete, scholars trace the hidden environmental and carbon costs of wars in Iraq (Rubaii, 2022), Syria (Bulmer, 2020), and more recently in Ukraine (de Klerk et al., 2023) and Gaza (Griffiths and Redwood, 2024; Neimark et al., 2024b).

As Rubaii (2020) notes in her work on the “enduring toxic legacy” of US occupation in Iraq, “Birth defects in Iraq are part of an evidentiary ecology of war brought to political and moral attention through the practices of archiving and documenting.” GPE can provide a conceptual framework for documenting and archiving military degraded environments over, “consecutive decades of war,” but also “bombing campaigns, burn pits, sanctions and other military interventions.”

### ***Banks & financiers invest in environmental change for better and (mostly) worse***

A key feature of GPE, much like its root (quasi)-discipline of political ecology, is a capaciousness to investigate a vast suite of institutions and their roles in producing and regulating socio-environmental relations across scales. While International Financial Institutions (IFIs) like the World Bank and International Monetary Fund have long been the institutions of concern for political ecologists (e.g. Bigger and Webber, 2021; Greenberg, 1997), the systemic role of finance in producing nature is a growing area of enquiry. This agenda is shaped by footloose investment capital’s continued development of new “green” asset classes that seek to render bio-, atmo-, and hydro-spheres investible around the world—a universe of entanglements that forms the basis of the literature on the financialisation of nature (Bracking, 2020).

The world of environment-regulating finance enmeshed in geopolitical considerations is sprawling and complicated. While far from new, it has only been lightly studied from a GPE perspective. For example, one might conceptualise the invention and operation of the earliest joint stock companies that raised private capital to finance colonial exploration and plunder as some of the critical institutions of the historical GPE of modernity (e.g. Patel and Moore, 2017).

The roles of banks as geopolitical-ecological actors can be conceptualised in two primary registers. Firstly (and in terms of impact, foremost), transnational finance is a critical enabler of environmental degradation at myriad sites and on a regional/global basis, conditioned by path dependencies of the global economy and financial and environmental regulatory regimes emanating primarily from Global North states but shaped by the *political* power of finance. Secondly, and moving in (nominally) the other direction, banks now play a central role in inventing new financial mechanisms or investing in those mechanisms to (supposedly) ameliorate those impacts. Most contemporary transnational banks embody both positions. For example, UBS, the Swiss banking giant, continues to finance new oil and gas extraction while simultaneously serving as the financial intermediary of choice for facilitating debt-for-nature swaps around the world that erode sovereignty over environmental and economic governance in recipient countries (Fresnillo, 2023).

In the extant GPE literature, analysis of banks (or financial institutions more broadly) is the least developed of the three key sectors we identify as primed for geopolitical-ecological investigation. Indeed, there is relatively little scholarship on the roles of financial institutions in conventional geopolitics research (although sovereign or public finance is relatively better represented). Given the outsized role that banks play in driving environmental change and their active involvement in virtually every multilateral environmental governance fora (Merleaux et al., 2024), this represents a significant analytical gap. From 2016 to 2023 for example the world’s 60 largest private banks provided USD \$6.9 trillion in finance for fossil fuel projects.

The imperative to bring financiers into the geopolitical-ecological frame appears to only be ramping up. North Atlantic governments and IFIs continue to double down on industrial policy approaches to decarbonisation (e.g. the Inflation Reduction Act in the USA, or the World Bank's Maximizing Finance for Development initiative) that seeks to use public money to derisk private investment in low carbon energy systems (Bigger et al., 2022; Bryant and Webber, 2024; Galindo-Gutiérrez, 2024). This approach is predicated on the unsubstantiated claim that there are not enough public resources to decarbonise the world (justly or otherwise). Thus, the logic goes, private finance will plug the substantial gaps in business-as-usual public finance, creating even more space for banks to reshape economies, communities, and landscapes—and the geopolitics that flow from, and are shaped by, those material conditions.

### ***Geopolitical BINGOs: materialised and marketised conservation***

An often-underrepresented actor within studies of GPE has been that of large organisational bodies and their influence in shaping national security and foreign development aid interests globally. GPE helps better interpret how large institutions and their constituent pieces, like Big International NGOs (BINGOS), not often considered geopolitical actors, behave as such.

Massé and Margulies' (2020) study of illegal wildlife conservation priorities of the US Fish and Wildlife Service (USFWS) Division of International Affairs presents how GPE can assist in mapping out complexity in foreign conservation assistance. Their meticulous forensic accounting shows that between 2018 and 2002 the USFWS provided over USD \$300 million to conservation projects in over 106 countries in "efforts to link the illicit harvesting and trafficking of wildlife with concerns about threats to national security" (Massé and Margulies, 2020: 1). This initiative highlights the key insight that foreign assistance is inherently geopolitical and further that it plays an important role in environmental change (see Bachmann, Bell and Holmqvist, 2015).

While Massé and Margulies look at the source of funding, other studies pick up at the sites of where much of this assistance lands, particularly at the offices of some of the largest conservation organisations whose task is to provide security for the world's charismatic megafauna and fauna in the name of national security (Benjaminsen et al., 2013; Büscher and Ramutsindela, 2016; Duffy, 2014, 2016; Kelly and Ybarra, 2016; Lunstrum, 2014; Massé and Lunstrum, 2016), or what may be (re-)termed "neoliberal 'militarised' conservation" (see: Büscher and Fletcher, 2018). Duffy and Brockington (2022: 31) demonstrate how large conservation NGOs, such as the World Wide Fund for Nature, Wildlife Conservation Society, Wildlife Conservation International, The Nature Conservancy, and their institutional supporters (e.g. European Union, INTERPOL), frame wildlife conservation and security in militarised terms leading to the build-up of conservation paramilitaries and the material impacts of militarisation for marginalised communities (see also Duffy, 2022).

Security apparatus and conservation organisations have a longstanding relationship of counterinsurgencies to enforce means of state control of territory (Dunlap and Fairhead, 2014; Peluso and Vandergeest, 2011; Ybarra, 2012). But it seems that through an intense layering of public-private partnerships, "...wildlife parks funded by global nongovernmental organisations and development banks present new sovereignty-territory configurations" (Havice, 2018: 3). In these public-private partnerships, counterinsurgencies by corporate actors have become more commonplace, under the guise of "green" transitions (Brock and Dunlap, 2018). What is the result of the state and corporate partnerships re-securing land and resources? How do we even begin to make sense of these complex configurations? Moving forward, perhaps GPE can offer a conceptual lens to make these vital connections.

### Moving geopolitical ecology forward

GPE is a nascent conceptual framework grounded in, and combining the strengths of, political ecology with that of geopolitics in order to better understand how large institutions impact environmental change. The framework offers a vantage from which to query key actors that comprise the dominant geopolitical-ecological regime as the various ecological crises we face have variegated local impacts, but huge institutions have an outsized impact on the production of natures that transcend the scales at which political ecologists typically work. Case studies remain important, but we neglect the geopolitical aspects of the production of nature at our peril.

While GPE has thus far been most developed across literature pertaining to the military (bombs), it is increasingly taken up by scholars studying BINGOs with an opportunity to add the power of finance (banks) to the frame. There are additional and timely areas of enquiry to engage with critical geopolitics, political economy, and political ecology in an integrated manner. Geopolitical-ecological analysis can be used, for example, to trace how capital flows intertwine with militarisation and policing, producing new geopolitical alignments. Stressing the importance of corporate counterinsurgency as a lens of analysis and critical scholarly engagement, Brock and Dunlap (2018) demonstrate how a diversity of greening activities form part of the soft counterinsurgency strategies of extractive industries and combine with “harder” counterinsurgency tactics which involve criminalisation, repression, and violence against forest defenders. Others chart new directions in GPE exploring non-human actants intersecting with institutional bodies, such as Mary Mostafanezhad’s (2018) work around smog and the tourism industry, and Nico Edward’s (2024) work on the underexplored tentacles of the arms industry.

In their call to turn towards a GPE for our times, Graddy-Lovelace and Ranganathan (2024) outline how emergent scholarship takes up GPE as a decolonial counter-narrative to dominant and dominating geopolitical discourses, provides a renewed emphasis on the political economy of racial capitalism, and offers a reparative frame through which to approach foundational questions of sovereignty of food, water, seeds, data, and territory—what they term “geopolitical agroecology.” Through these kinds of interventions and others, future interventions in GPE can help elucidate geopolitical-ecological regimes driving catastrophic environmental change.

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