

Ch. 14, Authoritarian regimes and the environment

Natalie Koch

Abstract. The environment poses a number of policy issues for any regime, including questions related to pollution and climate change, the scope and spatial extent of environmental protection, how natural resources can and should be extracted, investment in the “green economy” and other sustainability policies, how to manage or preempt environment-related protest movements, and more. This chapter examines the “environment” as a policy field of relevance to authoritarian regimes, which is best understood through the lens of political geography. It examines the relationship between environmental issues and authoritarian power structures, past and present, to argue that nature–society relations in authoritarian regimes are just as variable as the regimes themselves.

Keywords: Environment; Nature–society relations; Climate change; Sustainability; Geopolitics; Political geography

14.1 Introduction

The environment poses a number of policy questions for any regime, including issues of pollution and climate change, the scope and spatial extent of environmental protection, how natural resources can and should be extracted, investment in sustainability initiatives and the “green economy,” how to manage environment-related protest movements, and more. But as Stephen Brain and Viktor Pál (2019: 2) note, “the tendency among Western scholars to associate praiseworthy environmental policy with liberalism and individualism” means that much of the existing literature on environmental policies in authoritarian systems focuses narrowly on its negative aspects, “while casting positive developments in the darkest possible light or omitting them entirely, frequently positing the lack of democratic input into the decision-making process as a key factor.”

Many authoritarian regimes do have poor environmental records, but Brain and Pál’s concern, and one advanced in this chapter, is that a broader perspective is needed to account for the wide range of ways that the environment and resources are politicized in authoritarian contexts. The chapter accordingly examines three case studies from the United Arab Emirates, Kazakhstan, and China to unravel the multi-faceted relationship between authoritarian regimes and the environment. Stretching across different income levels (middle to high), population size (10 million to 1.4 billion), regime type (monarchy, personalist, and single-party authoritarian regimes), and range of environmental issues faced, these cases illustrate that nature–society relations in authoritarian regimes are just as variable as the regimes themselves. But when this diversity is approached through the lens of political geography, we can discern broader patterns that show how authoritarian regimes can develop particular concerns for environmental issues where they intersect with concerns for domestic and international legitimacy.

14.2 Politics and the environment

In the West, “the environment” is understood in relation to the concept of “nature” – both ideas loosely referring to the nonhuman and physical world, forming part of “a *family* of keywords whose meanings bleed into, and borrow from, one another” (Castree, 2017: 3). Together, the concepts assume a particular understanding of reality that naturalizes the split between the human and nonhuman. Geographers and other critical scholars have long challenged this divide – arguing that it is a social construction rather than an empirical fact. In fact, the rhetorical and material acts

that socially construct “nature” and “the environment” as spheres, separate from humans, are political acts (Castree and Braun, 2001). Setting out the boundaries between the human/nonhuman and the natural/unnatural have a long history in Western thinking, but gained special significance in the era of colonialism, when Europeans encountered new natures and environments, and with them, new contexts of defining nature–society relations (Merchant, 2003).

As with the broader history of colonialism, Western ontologies were spread along with the colonial agents and settlers the brought new places under European control. Rather than embracing the social and cultural integration of humans with the physical world, as diverse Indigenous societies did in the precolonial Americas, Africa, and Asia, these ways of relating to nature were defined as “other” and served as an index of backwardness (Castree and Braun, 2001; Drayton, 2000; Merchant, 2003). The resulting understanding of reality that sets humans *apart* from nature, rather than as *part of* nature, is also what forms the basis for hegemonic understandings of contemporary environmentalism (Grove, 1995; Ybarra, 2018). So while this chapter will refer to “the environment” without further caveats, it is important to bear in mind that it is a social construction.

The environment is politicized in myriad ways today, building from but extending well beyond the colonial patterns of ascribing a political significance to nature–society relations (Dalby, 2014; Harcourt and Nelson, 2015; Perreault et al., 2015). There are relatively few explicit studies about the relationship between the environment and authoritarianism, but as Brain and Pál (2019) note, scholars that have written on the topic often approach it with a normative frame of stigmatizing authoritarian regimes. Of course, many authoritarian regimes have tragic records of caring for the natural world and pursuing policies that expose their populations to toxic landscapes and all range of environmental injustices (Arefin, 2019; Brown, 2013; McNeill and Unger, 2010; Plokhy, 2018; Shapiro, 2001). But it is important to develop a critical perspective that does not quickly collapse analytical questions to simple moralizing storylines of good and evil, in a way that “others” authoritarianism and elevates liberal speakers as noble experts (Hoffman, 2018; Koch, 2017, 2019, 2022b). Rather, there are many questions about how authoritarian regimes relate to the environment, how citizens and subjects of authoritarian systems understand their relationship to the natural world, and how authoritarian relations beyond traditional state institutions are interwoven with environmental issues (Böhmelt, 2014; Brain, 2011; Pál and Perez, 2021; Sonnenfeld and Taylor, 2018).

To address these questions with nuance, a critical geographic approach to the environment and authoritarianism begins from the idea that “*there is a geopolitics of how environmental problems are represented*” (Castree, 2003: 427, emphasis in original). Geopolitics is a form of power/knowledge rather than an empirical set of “facts” (Ó Tuathail, 1996). The act of defining an environmental “problem” is therefore fundamentally a discursive act of power. So while environmental problems are “real,” “there is no objective perspective on their nature, causes, and solutions. Instead, we have an array of actors – such as states, non-governmental organizations (NGOs), quasi-governmental bodies, and environmental scientists – all claiming to know the “truth” about these problems (to the extent that what is defined by some actors as an environmental “problem” is not seen as one by others)” (Castree, 2003: 427). A discursive approach raises questions about how authoritarian regimes define environmental issues, as well as how they narrate solutions to environmental challenges and identify opportunities. Environmental issues are politically charged in non-authoritarian systems as well, but they can assume a unique political valence when they become entangled with questions of regime survival. Indeed, authoritarian leaders’ concern with the environment and natural resources often results from a more proximate

concern with ensuring the regime's legitimacy rather than environmental protection as a good in itself.

Regime survival concerns can be manifested and narrated in many different ways, but this includes threats and opportunities from outside *and* inside, that is, foreign *and* domestic actors, institutions, and circumstances. Authoritarian regimes are notoriously concerned with their legitimacy among foreign and domestic audiences. Environmental issues can provide opportunities for regimes seeking international legitimacy, especially if they have the resources to demonstrate their environmental credentials to foreign governments or agencies, for example, by promoting positive climate change policies or hosting large environmental summits. Likewise, legitimacy can be threatened if the international community questions or decries their environmental policy failures. This same pattern of threats and opportunities applies for domestic audiences, but with the added threat that citizens might protest or otherwise mobilize against a regime if the environment is allowed to become a flashpoint for anti-regime sentiment (Doyle and Simpson, 2006; Kirchhof and McNeill, 2019; Middeldorp and Le Billon, 2019). But regime anxiety about protests does not necessarily mean a clamp-down on the people. In some cases, the potentially destabilizing effect about environmental activist movements might cause authoritarian governments to be even *more* engaged or proactive in managing environmental problems – or in some cases, limiting public access to information about them.

The environment as a political terrain also encompasses natural resources. Natural resources are elements from the natural world to which humans ascribe a use value, typically because they support economic activities (Bakker and Bridge, 2006; Bridge, 2009; Harvey, 1974). These can include energy sources like oil, coal, or natural gas, as well as land, soil, food, and water, or minerals and precious metals like gold, copper, iron ore, lithium, and so forth. Resources are politicized because their spatial distribution is inherently uneven, both at the global level and at regional, state, sub-state, and local levels (Koch and Perreault, 2019). Authoritarian regimes have varying degrees of dependence on natural resource extraction, and likewise, the distribution of harms and benefits vary widely across different authoritarian regimes.

Given the indeterminacy of both political and physical geographic circumstances, critical geographic research interrogates who controls access to certain resources, how they are extracted, who benefits and who is harmed from extraction processes, and how those profits and harms are distributed among various political actors. So even where the resource in question may be the same, harms and benefits of extraction are more questions of political geography. For example, citizens receive huge benefits from their authoritarian governments' oil exports in the Arab Gulf states, but almost no benefits in the Central Asian states where oil revenues are largely misappropriated by political elites (Koch, 2015a). This variability means that it difficult to make any large generalizations about authoritarian regimes and the environment, except to say that the nexus must be approached through a deep, contextual analysis of how nature–society relations intersect with political, social, and cultural factors. That is to say, a critical geographic perspective is needed.

14.3 Three case studies

To illustrate the critical geographic approach that scholars of authoritarian regimes might use to investigate their relationship with the environment, the remainder of the chapter considers three case studies from the United Arab Emirates (UAE), Kazakhstan, and China. As noted above, the countries have different income levels (middle to high), population size (10 million to 1.4 billion), regime type (monarchy, personalist, and single-party authoritarian regimes), and range of

environmental issues faced. Interpreting the unique manner in which the environment and natural resources are politicized in each place requires careful attention to the variation among political elites, government institutions, and actors in different roles in everyday society. Further, the environmental policies of each of these countries have various implications for communities outside the borders of the territorial state, meaning that international actors and sites are also an important part of the story. I cannot do justice to the full scope of these interactions across scale, space, and time, so I consider a handful of examples for each country that both includes and moves beyond the binaries of top-down, regime-dominated policies and bottom-up, popular attitudes and activities of the ordinary residents of the state, as well as the domestic and foreign aspects of environmental politics as they have been approached by the authoritarian regimes of the UAE, Kazakhstan, and China.

14.3.1 United Arab Emirates

The United Arab Emirates is a federation of emirates, each being an absolute monarchy but united through various federal power structures. According to convention, the President is the ruler of Abu Dhabi (currently Sheikh Mohammed bin Zayed Al Nahyan), but each individual emirate is ruled by its own royal family. The UAE has significant oil and gas reserves and, since gaining independence in 1971, the government has institutionalized ways to distribute profits from hydrocarbon extraction to citizens. This includes free or subsidized fuel, electricity, and water, free education and healthcare, free or subsidized land upon marriage, privileged access to high-paying state-sector jobs, and more. Various commentators refer to this distribution of fossil fuel profits as the “ruling bargain” in Gulf countries, whereby citizens exchange political rights for extensive welfare goods (see Herb and Lynch, 2019). But the generous welfare benefits given to citizens, who represent a mere 11 percent of the population, are notable for the fact that they exclude the majority of the UAE’s residents – the remaining 89 percent who have virtually no possibility of ever gaining citizenship. The system of privileging citizens not only garners crucial support for the authoritarian regime that presides over it, but also engenders strong feelings of “resource nationalism” (Koch and Perreault, 2019) around the country’s fossil fuel resources. Many Emirati citizens are proud of their country’s place in the oil industry and are equally proud to hold jobs in the sector.

Yet the long-standing role of oil in Emirati nationalism is beginning to be called into question due to the growing strength of global narratives about climate change and with it, the vilification of companies and countries promoting the hegemonic fossil energy systems. This presents challenges for the UAE’s authoritarian leaders on many levels – it both calls into question the economic underpinnings that the regime has long been able to take for granted and it calls into question the legitimizing scripts of Emirati nationalism that link oil, progress, and modernity (Koch, 2022a, 2023). Now, business and political elites are increasingly wary of the fact that being a global leader in the oil and gas industry “has sullied their international reputation and that their near-exclusive economic dependence on resource rents makes them suspect in the eyes of global financial elites” (Koch, 2018a: 532).

Like their counterparts in the other hydrocarbon-exporting countries of the Arabian Peninsula, Emirati leaders have been trying to reframe their international reputation as being the center of the “backward” dirty energy system of oil, and instead being vanguards of the “modern” clean energy system of renewables. This has led to new nationalist scripts in the UAE, which Nicole Grove (2021: 1035) describes as “anticipatory authoritarian nation-building,” which are “organized around an imagined community premised on a nostalgic longing for a mythic future

rather than a mythic past.” Besides the “Mars 2117” project that she describes, the UAE’s new nation-building efforts guided by environmental anxieties include spectacular solar parks, eco-cities, green university facilities, and broadcasting sustainability as a key theme in major international events like EXPO 2020 Dubai and the United Nations COP28 meeting in 2023. Employing *spectacle* as a political tactic (Koch, 2018b), these initiatives are all designed to rebrand the UAE through the now globally celebrated discourse of “being green” (Koch, 2018a, 2023).

These branding efforts are targeted at domestic and foreign audiences alike, but at present, they largely operate as PR to deflect attention from the fact that they are built on an inherently unsustainable use of resources or what Mari Luomi (2012) describes as the “natural unsustainability” built into contemporary Gulf societies. A key environmental issue for all these countries, including the UAE, is that no development could happen without substantial water resources (Jones, 2010; Joseph and Howarth, 2015). The Arabian Peninsula is extremely arid and the UAE has little aquifer water to tap into, so its demand is almost exclusively met by desalinating seawater. Desalination is an energy-intensive process and, even though Emirati planners have long claimed to move toward renewable energy sources, nearly all of the country’s water is produced by burning natural gas (McDonnell, 2014). Nonetheless, water is used lavishly in the UAE, for everything from private and industrial uses, to the broader agenda of promoting spectacular urban development across the country (Cummings and von Richthofen, 2017; Günel, 2016, 2019; Koch, 2018a, 2018b; Molotch and Ponzini, 2019; Ouis, 2002, 2011a, 2011b; Ponzini, 2011; Rizzo and Mandal, 2021).

The “natural unsustainability” of these policies, which are key to the UAE government’s legitimacy, is not a safe topic for public discussion. The UAE’s authoritarian regime does not allow free speech, so open discussion of the environmental harms of the country’s pro-development political economy is systematically excluded from the media. Meanwhile, environmental activism is not exactly banned but any critical expressions of environmentalism are simply precluded via the widespread practices of self-censorship, through which UAE residents know that open critique is off limits (Koch, 2018a). Instead, the censored media landscape only airs celebratory stories about the country’s positive environmental credentials or about the conservationist ethic of the country’s “founding father,” Sheikh Zayed Al Nahyan.

In fact, this nationalist conservation story extends beyond the UAE’s borders, including how it is woven into how the country is internationally branded in the sustainability sector, such as through the EXPO and COP28 events noted above (Koch 2022a, 2023). It also includes international wildlife programs like the Sheikh Zayed Falcon Release Program in Kazakhstan and the UAE-owned Otterlo Business Corporation’s game program in Tanzania’s Ngorongoro Conservation Area, a UNESCO World Heritage Site that borders the Serengeti National Park. In both these cases, though, the “conservation” narrative is used to justify the exploitation of foreign wildlife for the hunting pleasure of Emirati royal family members and other elites (Al Jazeera, 2022; Gbadamosi, 2019; Koch, 2015a). Here again, we see that nationalist narratives and “the environment” intersect in how the authoritarian regime and its allies pursue their own individual interests. While its diverse sustainability and conservation projects may seem to take the edge off of its environmentally harmful policies, this regime is ultimately dependent on a global energy system dominated by oil. How much longer this world order will persist is unclear, but as with all authoritarian regimes, the government of Sheikh Mohammed bin Zayed keenly perceives the environment and natural resources to be crucial political issues for the regime’s survival in the not-too-distant future.

14.3.2 *Kazakhstan*

Kazakhstan, one of the 15 successor states of the Soviet Union, has had an authoritarian regime since it gained independence in 1991. This personalist regime was led by President Nursultan Nazarbayev for almost 30 years, until he stepped down in March 2019. His successor, Kassym-Jomart Tokayev, has not developed a comparable cult of personality as did Nazarbayev, but he has shown no interest in democratizing the country or loosening the tight controls on political or press freedoms. Rather, in response to a series of protests rippling through the country for several years, the most dramatic of which involved significant violence in January 2022 and shoot-to-kill orders for protesters issued by the government, Tokayev has only hardened what was a more “soft authoritarian” regime under Nazarbayev (Koch, 2013a; Kudaibergenova and Laruelle, 2022; Schatz, 2009).

Nazarbayev’s government was the first to take control of Kazakhstan after gaining independence. The regime accordingly had the dual task of establishing legitimacy of the state as such and the regime as the rightful authority to control the levers of power in the state. Kazakhstan has significant natural resources (oil, uranium, copper, wheat, etc.), so the regime immediately saw the possibilities to develop the country by promoting their exports. They also found many opportunities to enrich themselves by exploiting the state-owned enterprises involved in the extraction processes, as well as a range of other strategies that allowed them to dip into the state coffers (Koch, 2015a, 2018b; Lillis, 2018; Yessenova, 2015). But the story alone – of resource-fueled modernization – was a powerful tool in legitimating the Nazarbayev regime’s focus on exploiting its natural resources. It was also an argument that the government frequently made with reference to the ambition of achieving what the Gulf countries had achieved through their own oil-funded development agendas (Koch, 2013b).

Like the Gulf Arab monarchies, though, Nazarbayev’s government slowly began to pick up on the changing geopolitical winds about the future of energy needing to move beyond oil. Promoting a positive, “modern” image for Kazakhstan internationally was an especially important aspect of the Nazarbayev regime’s nation-building project (Bekus, 2022; Koch, 2010, 2012, 2018b; Laszczkowski, 2016), so they began adopting and adapting the language of sustainability to index their commitment to working toward a post-oil modernity. To that end, the government adopted the “Concept on Transition towards Green Economy until 2050” in 2013, hosted the second-tier World’s Fair EXPO 2017 in Astana around the theme of “Future Energy,” and otherwise started promoting a range of small but attention-grabbing renewable energy projects (Diyar et al., 2014; Koch, 2015b, 2021; Koch and Tynkkynen, 2021).

Nazarbayev opened EXPO 2017 with a bold promise of moving Kazakhstan from under 1 percent renewable energy sourcing in 2013, to 3 percent by 2020, 30 percent by 2030, and 50 percent by 2050. Like other flashy numerical promises for a post-oil, clean energy future that governments and companies around the world are increasingly promoting, these promises are designed to flag the country’s modernity. Outside observers largely remain suspicious of the genuine commitment of oil-dependent countries like Kazakhstan to promoting renewable energy, but such projects nonetheless reflect the regime’s interest in enticing the foreign investment that is equally important to international *and* domestic legitimacy (Koch and Tynkkynen, 2021: 525). As their Gulf counterparts have already understood, “sustainability” is an important frame for authoritarian regimes today to tap into for both the symbolic and financial capital that it offers.

Also like their Gulf counterparts, planners in Kazakhstan have clearly perceived the power of environmental spectacle in lending the government a degree of splendor and prestige – especially through harnessing the emotionally evocative image of water in the desert. Shortly after

the country gained independence, Nazarbayev decided to move the country's capital from Almaty to Astana (renamed Nur-Sultan in 2019 after Nazarbayev stepped down from office). Astana was Nazarbayev's pet project pegged to his own legitimacy as a benevolent and forward-looking leader, and curating the image of the city was an important part of this project. According to the city's master planner, Amanzhol Chikanayev, whom I interviewed in 2011,

The old idea of a city is that it should be comfortable, nice, green. There was an idea that one had to preserve (*sokhronit'*) the environment. But in the 21st century, there is a new philosophy, and it is recognized that this simply isn't enough. We need to build nature at the same time as we build a city – together. (Quoted in Koch, 2015b: 676)

The act of “building nature” was a common theme of Soviet nation-building, and the awe that it is supposed to inspire toward a government so powerful that it can control a force as powerful as nature, and so powerful that it can mobilize the vast human and material resources needed to do so (Bolotova, 2004; Breyfogle, 2018; Josephson, 2013, 2014; McCannon, 1995; Peterson, 2019; Richter, 1997). For Kazakhstan's President Nazarbayev and his planning chief Chikanayev, this show of state power through building nature in the new capital entailed diverting a river to run through the city, embarking on a huge urban and peri-urban afforestation campaign, and otherwise populating the city with all range of fountains and green spaces (Koch, 2015b, 2018b).

Since independence, the authoritarian government of Kazakhstan has approached environmental issues, like other policy domains, in a top-down manner. This is despite – or perhaps *because of* – the country's history of powerful grassroots environmental organizing toward the end of the USSR, primarily around the Soviet nuclear testing program in Semipalatinsk (with 456 nuclear tests conduct on the Kazakh SSR from 1949 until 1989). The Nazarbayev regime was happy to promote its anti-nuclear credentials in the early years of independence, but any serious environmental organizing in the new country was stifled, either directly or indirectly through self-censorship. The government has since neglected to undertake any serious remediation of the site and the gross injustice of the environmental pollution's past and present continues to take its toll on residents in the region (Brunn, 2011; Stawkowski, 2014, 2016; Weinthal, 2002). A similar situation prevails for other ecological challenges in Kazakhstan, which result in serious health problems for communities whose water and air are contaminated from oil extraction and mining, such as the Baikonur Cosmodrome, the desiccated Aral Sea, and even ordinary urban populations living with severe air pollution (Koch, 2018b, 2021; Kopack, 2019; Watters, 2009; Wheeler, 2021; White, 2019).

Overall, government neglect for environmental protection in Kazakhstan goes hand in hand with celebratory environmental spectacle attached to the government's dazzling greening projects in the capital and its iconic “future energy” and sustainable economy development agenda. By highlighting the regime's favorite projects and downplaying the more complicated challenges, elites work to “cultivate a parallel image of state power and magnanimity, while effacing the structural violence that they simultaneously depend on and deepen” (Koch, 2015b: 677). The resulting forms of “slow violence” (Nixon, 2011) from environmental abuse, wrought on people and land alike, are not unique to authoritarian regimes. Yet they are politicized by authoritarian regimes in a way that reflects their concerns for legitimacy, internationally and domestically. Unfortunately for the citizens of Kazakhstan, these political practices are rarely seen to be priorities for international audiences, while their ability to demand change and environmental justice continue to be restricted by a regime wary of popular expression by ordinary citizens.

14.3.3 *China*

China, or the People's Republic of China, has been governed by a series of authoritarian leaders presiding over the one-party system of the Chinese Communist Party (CCP) since 1949. The party-controlled state was established by the first CCP Chairman Mao Zedong, who ruled until 1976. A series of successors since then have oscillated between softening and hardening the regime, but the current CCP General Secretary Xi Jinping has returned to a far more personalist style of rule as prevailed under Mao (Shirk, 2018). Since Xi took office in 2012, his regime has systematically developed around a tighter and more punitive form of authoritarian power. Despite this variability, the environment has been an important political issue over the entire 75 years of Communist Party rule (Marks, 2017; Shapiro, 2016). Like the Soviet vision of powerful humans "mastering" nature, Chairman Mao's vision of environmental conquest was aggressive. Judith Shapiro (2001: 3) elaborates: "The Maoist adversarial stance toward the natural world is an extreme case of the modernist conception of humans as fundamentally distinct and separate from nature." Mass mobilization campaigns enlisted ordinary citizens of China to implement a range of modernist environmental projects, with official rhetoric defining the population as being part of a "war against nature" (Shapiro, 2001: 3–4).

The brute force of this martial discourse under Mao, combined with the state's dominance of public discourse about the environment, meant that the kind of spiritual and emotional forms of environmentalism that arose in the West in the 1960s and 1970s did not find their way into popular conceptions of nature in China. Where environmentalism arose in the country, it tended to be defined around more pragmatic concerns of health and economy – and often, it too was state-led. The increasing efforts of the government to address environmental problems in the country over the past few decades has led scholars to hold China up as an exemplar of "authoritarian environmentalism," whereby the government uses its authoritarian toolkit to quick and forceful action on solving an environmental problem (Beeson, 2010; Gilley, 2012; Li and Shapiro, 2020; Moore, 2014).

Some authors writing on this issue in contemporary China have picked up the threads of older Western environmental discourse promoting "eco-authoritarianism," but critical scholars reject the dangerous impulse to engage in the essentialist question of whether democracies or autocracies are "better" at environmental protection (Shahar, 2015). Rather, as serious scholars of authoritarianism know, regimes and citizens cannot be reduced to singular variables. Complex contextual factors interact to explain how the environment is politicized by specific regimes and individuals at a particular moment in time – and there are a staggering number of factors at play in China. While space does not allow a full review here, nuanced, ethnographic research on authoritarianism and environmental relations in China works to capture this diversity and, in so doing, challenges the overly simplistic understanding of top-down state power. Scholars doing this research evocatively show elite narratives are powerful, but that citizens also internalize certain environmental scripts and police one another and their communities in a horizontal fashion (e.g., Clarke-Sather, 2017, 2019; Geall, 2018; Mao and Zhang, 2018; Owen, 2020; Yeh, 2009, 2013).

In many ways, environmentalism is a state-controlled discursive field in China today. But the ruling regime has limits and it cannot singlehandedly impose its environmental vision on citizens. As Mao and Qiu (2020: 594) show, activist "netizens" have been able to use new digital technologies to do their own reporting about environmental crises in China and, in some cases, even effect a change in state policy. Ultimately, Emily Yeh (2009: 893) explains that a critical perspective on authoritarian power and the environment in China needs to examine

what forms of knowledge and representation allow “the environment” to come into being as an object of regulation and intervention, and what the implications of these authorized interventions are, not only for ecological outcomes and the livelihoods of specific groups of affected people, but also for the relationship between the state and different groups of citizens and for the production of new interests and subjectivities.

That is, authoritarian state power is neither unitary nor unidirectional, meaning that the environment is bound to be politicized in highly variable ways – both by and within a given regime, and by and among different actors in the population.

Among the diverse ways that the Chinese government has worked to enlist ordinary people in its various environmental projects in recent years has been by inciting and then tapping into neoliberal desires for individual wealth and prosperity (Hoffman, 2006; Lim, 2014; Zhang and Ong, 2008). Like the cases of the UAE and Kazakhstan, the Chinese government’s developmental agenda that underpins its domestic legitimacy has been overwhelmingly defined by a focus on urban growth in the last few decades. And as with those countries, the resource-intensive processes of urban development have been branded as “green,” with sustainability credentials now commonly interwoven with contemporary modernity discourses. Urban sustainability has quickly become a favorite topic of the government in recent years, in no small part because the “green building” discourse is easily applied to an already-established pattern of massive urban development schemes that have been a key feature recent economic configurations in the country (Caprotti et al., 2015; Chang, 2017; Hoffman, 2009, 2011; Pow and Harvey, 2013, 2015; Ren, 2012; Williams, 2017; Zhou, 2015).

Extending beyond just the economic opportunities of continuing unsustainable city building schemes, Xi Jinping’s regime has sought to cultivate the symbolic power of environmental discourse by inscribing its vision of “Ecological Civilization” into the Chinese Constitution in 2018. Ecological Civilization is framed as a set of values and development priorities to define a vision of “green” future for China (Hanson, 2019). Xi is decidedly less concerned with Western opinion than his counterparts in Kazakhstan and the UAE, but this nationalist articulation of sustainability discourse – of “sustainable development with Chinese characteristics” – serves as an important way to unify diverse actors across China while also recognizing that the regime’s developmentalist vision is inextricably linked to global political economy. In her study of Chinese investment in Namibia’s uranium sector, Meredith DeBoom (2020) shows how Xi has explicitly defined Ecological Civilization as a “global endeavor,” extending this nationalist vision of the environment well beyond China’s borders. Indeed, both the import and export of natural resources are essential to the government’s legitimacy-building efforts, as they are essential to reaching ambitious domestic growth targets and to entrench the natural resource dependencies that underpin its foreign policy relations around the world (Andrews-Speed et al., 2016; DeBoom 2017, 2020, 2021; Klinger, 2017, 2020; Murton, 2020; Rogelja, 2020).

14.4 Conclusion

Environmental issues, like borders, are politicized in divergent ways across different authoritarian regimes and among their subjects. While it may be a convenient shorthand to define a particular authoritarian regime as having power over the environment and environmental policy within the bounds of its territorial borders, the globalized structure of contemporary political economy combined with the spatially diffuse effects of environmental forces like climate change

defy all such borders. It is nonetheless important to ask how territorial borders are relevant for differently positioned actors and ideas, which continue to both arise from and clash against them. Regimes across the entire political spectrum today all operate within the dominant state system, meaning that they face similar intuitional constraints in the sphere of geopolitics and the environmental treaties that they may be party to.

Yet because authoritarian regimes still seek – and need – to engage with the broader world community, they also pursue the legitimacy that might be derived from contemporary sustainability discourse and take seriously other key environmental issues of our time. Likewise, even though authoritarian regimes are differently constrained by their domestic political structures, which are not fundamentally guided by the idea of popular representation and civil society engagement, they also need certain forms of financial and symbolic capital that might be attached to environmental and natural resource issues in their country. Thus, when considering the relationship between authoritarian regimes and the environment, a critical geographic approach shows how nature–society relations in authoritarian regimes are just as variable as the regimes themselves. These relations are not predetermined, but rather consist of a wide range of flows across and within state borders, among the regime and its subjects, and, ultimately, across the generations who feel the effects of environmental decisions made by their forebears.

A critical analysis of the relationship between authoritarian regimes and the environment requires that scholars take political geography seriously. This perspective refuses any grand generalizations about an essential “authoritarian” approach to the environment. Critical scholars instead ask more salient questions of how regimes politicize the environment and natural resources, how they define environmental policies and problems, how they advertise or obscure facts about the natural world, how they narrate solutions to environmental challenges, how they define and relate to natural resources under their control, how they encourage or discourage certain forms of environmental citizenship among their subjects, how they relate to international environmental discourses, institutions, economies, and so on. By investigating such questions and attending to the multiply-scaled contextual factors that shape any political system, future scholars of authoritarianism can open up key questions about how nature–society relations are interwoven with challenges to the legitimacy of many kinds of regimes – a topic that is increasingly important and increasingly volatile in today’s context of climate crisis.

References

- Al Jazeera (2022), “In Tanzania, the Maasai Fight Eviction over State Conservation Plot”, *Al Jazeera* (June 16), <https://www.aljazeera.com/features/2022/6/16/in-tanzania-the-maasai-fight-eviction-over-statconservation-plot> (last accessed October 28, 2023).
- Andrews-Speed, Philip, Mingda Qiu and Christopher Len (2016), “Chinese Engagement in Southeast Asian Energy and Mineral Resources: Motivations and Outlook”, *Eurasian Geography and Economics*, **57** (3), 316–42.
- Arefin, Mohammed Rafi (2019), “The State, Sewers, and Security: How Does the Egyptian State Reframe Environmental Disasters as Terrorist Threats?”, *Annals of the American Association of Geographers*, **109** (2), 412–21.
- Bakker, Karen and Gavin Bridge (2006), “Material Worlds? Resource Geographies and the ‘Matter of Nature’”, *Progress in Human Geography*, **30** (1), 5–27.
- Beeson, Mark (2010), “The Coming of Environmental Authoritarianism”, *Environmental Politics*, **19** (2), 276–94.

- Bekus, Nelly (2022), “Outer Space Technopolitics and Postcolonial Modernity in Kazakhstan”, *Central Asian Survey*, **41** (2), 347–67.
- Böhmelt, Tobias (2014), “Political Opportunity Structures in Dictatorships? Explaining Envo Existence in Autocratic Regimes”, *The Journal of Environment & Development*, **23** (4), 446–71.
- Bolotova, Alla (2004), “Colonization of Nature in the Soviet Union. State Ideology, Public Discourse, and the Experience of Geologists”, *Historical Social Research*, **29** (3), 104–23.
- Brain, Stephen (2011), *Song of the Forest: Russian Forestry and Stalinist Environmentalism, 1905–1953*, Pittsburgh, PA: University of Pittsburgh Press.
- Brain, Stephen and Viktor Pál (2019), *Environmentalism under Authoritarian Regimes: Myth, Propaganda, Reality*, New York: Routledge.
- Breyfogle, Nicholas (2018), *Eurasian Environments: Nature and Ecology in Imperial Russian and Soviet History*, Pittsburgh, PA: University of Pittsburgh Press.
- Bridge, Gavin (2009), “Material Worlds: Natural Resources, Resource Geography and the Material Economy”, *Geography Compass*, **3** (3), 1217–44.
- Brown, Kate (2013), *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*, Oxford: Oxford University Press.
- Brunn, Stanley (2011), “Fifty Years of Soviet Nuclear Testing in Semipalatinsk, Kazakstan: Juxtaposed Worlds of Blasts and Silences, Security and Risks, Denials and Memory”, in Stanley Brunn (ed.), *Engineering Earth: The Impacts of Megaengineering Projects*, New York: Springer, pp. 1789–818.
- Caprotti, Federico, Cecilia Springer and Nichola Harmer (2015), “‘Eco’ for Whom? Envisioning Eco-Urbanism in the Sino-Singapore Tianjin Eco-City, China”, *International Journal of Urban and Regional Research*, **39** (3), 495–517.
- Castree, Noel (2003), “The Geopolitics of Nature”, in John Agnew, Carolyn Cartier and Gerard Toal (eds.), *A Companion to Political Geography*, Malden, MA: Blackwell, pp. 423–39.
- Castree, Noel and Bruce Braun (2001), *Social Nature: Theory, Practice, and Politics*, Malden, MA: Blackwell.
- Castree, Noel (2017), “Nature”, in Douglas Richardson (ed.), *International Encyclopedia of Geography: People, the Earth, Environment and Technology*. Hoboken, NJ: John Wiley & Sons, pp. 1–26.
- Chang, I. Chun Catherine (2017), “Failure Matters: Reassembling Eco-Urbanism in a Globalizing China”, *Environment and Planning A*, **49** (8), 1719–42.
- Clarke-Sather, Afton (2017), “State Power and Domestic Water Provision in Semi-Arid Northwest China: Towards an Aleatory Political Ecology”, *Political Geography*, **58**, 93–103.
- Clarke-Sather, Afton (2019), “From the Heavens to the Markets: Governing Agricultural Drought under Chinese Fragmented Authoritarianism”, *Annals of the American Association of Geographers*, **109** (2), 456–64.
- Cummings, Veronika and Aurel von Richthofen (2017), “Urban Sustainability as a Political Instrument in the Gulf Region Exemplified by Projects in Abu Dhabi”, *DIE ERDE – Journal of the Geographical Society of Berlin*, **148** (4), 253–67.
- Dalby, Simon (2014), “Environmental Geopolitics in the Twenty-First Century”, *Alternatives*, **39** (1), 3–16.

- DeBoom, Meredith (2017), “Nuclear (Geo)Political Ecologies: A Hybrid Geography of Chinese Investment in Namibia’s Uranium Sector”, *Journal of Current Chinese Affairs*, **46** (3), 53–83.
- DeBoom, Meredith (2020), “Sovereignty and Climate Necropolitics: The Tragedy of the State System Goes ‘Green’”, in Sami Moisió, Natalie Koch, Andrew E.G. Jonas, Christopher Lizotte and Juho Luukkonen (eds.), *Handbook on the Changing Geographies of the State: New Spaces of Geopolitics*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar, pp. 276–86.
- DeBoom, Meredith (2021), “Climate Necropolitics: Ecological Civilization and the Distributive Geographies of Extractive Violence in the Anthropocene”, *Annals of the American Association of Geographers*, **111** (3), 900–12.
- Diyar, Sabit, Aigul Akparova, Azamat Toktabayev and Marina Tyutunnikova (2014), “Green Economy – Innovation-Based Development of Kazakhstan”, *Procedia – Social and Behavioral Sciences*, **140**, 695–9.
- Doyle, Timothy and Adam Simpson (2006), “Traversing More Than Speed Bumps: Green Politics under Authoritarian Regimes in Burma and Iran”, *Environmental Politics*, **15** (5), 750–67.
- Drayton, Richard (2000), *Nature’s Government: Science, Imperial Britain, and the “Improvement” of the World*, New Haven, CT: Yale University Press.
- Gbadamosi, Nosmot (2019), “Is Conservation Becoming Colonialism in Tanzania?”, *Foreign Policy* (July 27), <https://foreignpolicy.com/2022/07/27/tanzania-conservation-colonialism-eviction-indigenous-rights/> (last accessed October 28, 2023)
- Geall, Sam (2018), “Climate-Change Journalism and ‘Edgeball’ Politics in Contemporary China”, *Society & Natural Resources*, **31** (5), 541–55.
- Gilley, Bruce (2012), “Authoritarian Environmentalism and China’s Response to Climate Change”, *Environmental Politics*, **21** (2), 287–307.
- Grove, Nicole (2021), “‘Welcome to Mars’: Space Colonization, Anticipatory Authoritarianism, and the Labour of Hope”, *Globalizations*, **18** (6), 1033–48.
- Grove, Richard (1995), *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860*, Cambridge: Cambridge University Press.
- Günel, Gökçe (2016), “The Infinity of Water: Climate Change Adaptation in the Arabian Peninsula”, *Public Culture*, **28** (2), 291–315.
- Günel, Gökçe (2019), *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*, Durham, NC: Duke University Press.
- Hanson, Arthur. 2019. “Ecological Civilization in the People’s Republic of China: Values, Action, and Future Needs”, in *ADB East Asia Working Paper Series*, No. 21, Manila: Asian Development Bank.
- Harcourt, Wendy and Ingrid L. Nelson (2015), *Practising Feminist Political Ecologies: Moving beyond the “Green Economy”*, New York: Zed Books.
- Harvey, David (1974), “Population, Resources, and the Ideology of Science”, *Economic Geography*, **50** (3), 256–77.
- Herb, Michael and Marc Lynch (2019), “Introduction: The Politics of Rentier States in the Gulf”, *POMEPS Studies*, **33**, 3–7.
- Hoffman, Lisa (2006), “Autonomous Choices and Patriotic Professionalism: On Governmentality in Late-Socialist China”, *Economy and Society*, **35** (4), 550–70.

- Hoffman, Lisa (2009), “Governmental Rationalities of Environmental City-Building in Contemporary China”, in Elaine Jeffreys (ed.), *China’s Governmentalities: Governing Change, Changing Government*, New York: Routledge, pp. 107–24.
- Hoffman, Lisa (2011), “Urban Modeling and Contemporary Technologies of City-Building in China: The Production of Regimes of Green Urbanisms”, in Ananya Roy and Aihwa Ong (eds.), *Worlding Cities: Asian Experiments and the Art of Being Global*, Malden, MA: Wiley-Blackwell, pp. 55–76.
- Hoffmann, Clemens (2018), “Environmental Determinism as Orientalism: The Geo-political Ecology of Crisis in the Middle East”, *Journal of Historical Sociology*, **31** (1), 94–104.
- Jones, Toby Craig (2010), *Desert Kingdom: How Oil and Water Forged Modern Saudi Arabia*, Cambridge, MA: Harvard University Press.
- Joseph, Sabrina and Brigitte Howarth (2015), “Fertile Sands: Colonial Politics and the Development of Land and Water Resources in the Trucial States, Mid- to Late 20th Century”, *The Arab World Geographer*, **18** (3), 139–68.
- Josephson, Paul (2013), *An Environmental History of Russia*, Cambridge: Cambridge University Press.
- Josephson, Paul (2014), *The Conquest of the Russian Arctic*, Cambridge, MA: Harvard University Press.
- Kirchhof, Astrid and John McNeill (2019), *Nature and the Iron Curtain: Environmental Policy and Social Movements in Communist and Capitalist Countries, 1945–1990*, Pittsburgh, PA: University of Pittsburgh Press.
- Klinger, Julie (2017), *Rare Earth Frontiers: From Terrestrial Subsoils to Lunar Landscapes*, Ithaca, NY: Cornell University Press.
- Klinger, Julie (2020), “Environment, Development, and Security Politics in the Production of Belt and Road Spaces”, *Territory, Politics, Governance*, **8** (5), 657–75.
- Koch, Natalie (2010), “The Monumental and the Miniature: Imagining ‘Modernity’ in Astana”, *Social & Cultural Geography*, **11** (8), 769–87.
- Koch, Natalie (2012), “Urban ‘Utopias’: The Disney Stigma and Discourses of ‘False Modernity’”, *Environment and Planning A*, **44** (10), 2445–62.
- Koch, Natalie (2013a), “Sport and Soft Authoritarian Nation-Building”, *Political Geography*, **32**, 42–51.
- Koch, Natalie (2013b), “Why Not a World City? Astana, Ankara, and Geopolitical Scripts in Urban Networks”, *Urban Geography*, **34** (1), 109–30.
- Koch, Natalie (2015a), “Exploring Divergences in Comparative Research: Citizenship Regimes and the Spectacular Cities of Central Asia and the GCC”, *Area*, **47** (4), 436–42.
- Koch, Natalie (2015b), “The Violence of Spectacle: Statist Schemes to Green the Desert and Constructing Astana and Ashgabat as Urban Oases”, *Social & Cultural Geography*, **16** (6), 675–97.
- Koch, Natalie (2017), “Orientalizing Authoritarianism: Narrating US Exceptionalism in Popular Reactions to the Trump Election and Presidency”, *Political Geography*, **58**, 145–7.
- Koch, Natalie (2018a), “Green Laboratories: University Campuses as Sustainability ‘Exemplars’ in the Arabian Peninsula”, *Society & Natural Resources*, **31** (5), 525–40.
- Koch, Natalie (2018b), *The Geopolitics of Spectacle: Space, Synecdoche, and the New Capitals of Asia*, Ithaca, NY: Cornell University Press.
- Koch, Natalie (2019), “Post-Triumphalist Geopolitics: Liberal Selves, Authoritarian Others”, *ACME: An International E-Journal for Critical Geographies*, **18** (4), 909–24.

- Koch, Natalie (2021), “Environmental Geopolitics in Central Asia”, in Jeroen Van den Bosch, Adrien Fauve and Bruno De Cordier (eds.), *European Handbook of Central Asian Studies: History, Politics, and Societies*, Hannover: ibidem, pp. 811-52.
- Koch, Natalie (2022a), “Greening ‘Oil Money’: The Role of Oil Money in Promoting the Energy Transition”, *Energy Research & Social Science* **93**, 102833.
- Koch, Natalie (ed.) (2022b), *Spatializing Authoritarianism*, Syracuse, NY: Syracuse University Press.
- Koch, Natalie (2023) “Sustainability Spectacle and ‘Post-Oil’ Greening Initiatives”, *Environmental Politics*, **32** (4), 708–31.
- Koch, Natalie and Tom Perreault (2019), “Resource Nationalism”, *Progress in Human Geography*, **43** (4), 611–31.
- Koch, Natalie and Veli-Pekka Tynkkynen (2021), “The Geopolitics of Renewables in Kazakhstan and Russia”, *Geopolitics*, **26** (2), 521–40.
- Kopack, Robert A. (2019), “Rocket Wastelands in Kazakhstan: Scientific Authoritarianism and the Baikonur Cosmodrome”, *Annals of the American Association of Geographers*, **109** (2), 556–67.
- Kudaibergenova, Diana and Marlene Laruelle (2022), “Making Sense of the January 2022 Protests in Kazakhstan: Failing Legitimacy, Culture of Protests, and Elite Readjustments”, *Post-Soviet Affairs*, **38** (6), 441–59.
- Laszczkowski, Mateusz (2016), *“City of the Future”: Built Space, Modernity, and Change in Astana*, New York: Berghahn.
- Li, Yifei and Judith Shapiro (2020), *China Goes Green: Coercive Environmentalism for a Troubled Planet*, Medford: Polity.
- Lillis, Joanna (2018), *Dark Shadows: Inside the Secret World of Kazakhstan*, New York: I.B. Tauris.
- Lim, Kean Fan (2014), “‘Socialism with Chinese Characteristics’: Uneven Development, Variegated Neoliberalization and the Dialectical Differentiation of State Spatiality”, *Progress in Human Geography*, **38** (2), 221–47.
- Luomi, Mari (2012), *The Gulf Monarchies and Climate Change: Abu Dhabi and Qatar in an Era of Natural Unsustainability*, London: C Hurst & Co.
- Mao, KuoRay and Qian Zhang (2018), “Dilemmas of State-Led Environmental Conservation in China: Environmental Target Enforcement and Public Participation in Minqin County”, *Society & Natural Resources*, **31** (5), 615–31.
- Mao, Zhifei and Jack Linchuan Qiu (2020), “Staging Environmental Risk: A Methodological Cosmopolitanism Approach to Chinese Media Events”, *Global Networks*, **20** (3), 584-99.
- Marks, Robert (2017), *China: An Environmental History*, Lanham, MD: Rowman & Littlefield.
- McCannon, John (1995), “To Storm the Arctic: Soviet Polar Expeditions and Public Visions of Nature in the USSR, 1932–1939”, *Ecumene*, **2** (1), 15–31.
- McDonnell, R.A. (2014), “Circulations and Transformations of Energy and Water in Abu Dhabi’s Hydrosocial Cycle”, *Geoforum*, **57**, 225–33.
- McNeill, John Robert and Corinna R. Unger (2010), *Environmental Histories of the Cold War*, New York: Cambridge University Press.
- Merchant, Carolyn (2003), *Reinventing Eden: The Fate of Nature in Western Culture*, New York: Routledge.

- Middeldorp, Nick and Philippe Le Billon (2019), “Deadly Environmental Governance: Authoritarianism, Eco-populism, and the Repression of Environmental and Land Defenders”, *Annals of the American Association of Geographers*, **109** (2), 324–37.
- Molotch, Harvey and Davide Ponzini (2019), *The New Arab Urban: Gulf Cities of Wealth, Ambition, and Distress*, New York: New York University Press.
- Moore, Scott M. (2014), “Modernisation, Authoritarianism, and the Environment: The Politics of China’s South–North Water Transfer Project”, *Environmental Politics*, **23** (6), 947–64.
- Murton, Galen (2020), “Roads to China and Infrastructural Relations in Nepal”, *Environment and Planning C: Politics and Space*, **38** (5), 840–7.
- Nixon, Rob (2011), *Slow Violence and the Environmentalism of the Poor*, Cambridge, MA: Harvard University Press.
- Ó Tuathail, Gearóid (1996), *Critical Geopolitics: The Politics of Writing Global Space*, Minneapolis, MN: University of Minnesota Press.
- Ouis, Pernilla (2002), “‘Greening the Emirates’: The Modern Construction of Nature in the United Arab Emirates”, *Cultural Geographies*, **9** (3), 334–47.
- Ouis, Pernilla (2011a), “‘And an Island Never Cries’: Cultural and Societal Perspectives on the Mega Development of Islands in the United Arab Emirates”, in Viorel Badescu and Richard Cathcart (eds.), *Macro-Engineering Seawater in Unique Environments*, Berlin: Springer-Verlag, pp. 59–75.
- Ouis, Pernilla (2011b), “Engineering the Emirates: The Evolution of a New Environment”, in Stanley Brunn (ed.), *Engineering Earth: The Impacts of Megaengineering Projects*, New York: Springer, pp. 1409–23.
- Owen, Catherine (2020), “Participatory Authoritarianism: From Bureaucratic Transformation to Civic Participation in Russia and China”, *Review of International Studies*, **46** (4), 415–34.
- Pál, Viktor and Leonardo Perez (2021), “Environmental Protection under Authoritarian Regimes in Cold War Chile and Hungary”, *Global Environment*, **14** (2), 310–34.
- Perreault, Thomas Albert, Gavin Bridge and James McCarthy (2015), *Routledge Handbook of Political Ecology*, New York: Routledge.
- Peterson, Maya (2019), *Pipe Dreams: Water and Empire in Central Asia’s Aral Sea Basin*, Cambridge: Cambridge University Press.
- Plokhy, Serhii (2018), *Chernobyl: The History of a Nuclear Catastrophe*, New York: Basic Books.
- Ponzini, Davide (2011), “Large Scale Development Projects and Star Architecture in the Absence of Democratic Politics: The Case of Abu Dhabi, UAE”, *Cities*, **28** (3), 251–9.
- Pow, C.P. and Harvey Neo (2013), “Seeing Red over Green: Contesting Urban Sustainabilities in China”, *Urban Studies*, **50** (11), 2256–74.
- Pow, C.P. and Harvey Neo (2015), “Modelling Green Urbanism in China”, *Area*, **47** (2), 132–40.
- Ren, Xuefei (2012), “‘Green’ as Spectacle in China”, *Journal of International Affairs*, **65** (2), 19–30.
- Richter, Bernd (1997), “Nature Mastered by Man: Ideology and Water in the Soviet Union”, *Environment and History*, **3**, 69–96.
- Rizzo, Agatino and Anandita Mandal (2021), *Predatory Urbanism: The Metabolism of Megaprojects in Asia*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar.
- Rogelja, Igor (2020), “Concrete and Coal: China’s Infrastructural Assemblages in the Balkans”, *Political Geography*, **81**, 102220.

- Schatz, Edward (2009), “The Soft Authoritarian Tool Kit: Agenda-Setting Power in Kazakhstan and Kyrgyzstan”, *Comparative Politics*, **41** (2), 203–22.
- Shahar, Dan (2015), “Rejecting Eco-authoritarianism, Again”, *Environmental Values*, **24** (3), 345–66.
- Shapiro, Judith (2001), *Mao’s War against Nature: Politics and the Environment in Revolutionary China*, Cambridge: Cambridge University Press.
- Shapiro, Judith (2016), “Environmental Degradation in China under Mao and Today: A Comparative Reflection”, *Global Environment*, **9** (2), 440–57.
- Shirk, Susan (2018), “China in Xi’s ‘New Era’: The Return to Personalistic Rule”, *Journal of Democracy*, **29** (2): 22–36.
- Sonnenfeld, David and Peter Leigh Taylor (2018), “Liberalism, Illiberalism, and the Environment”, *Society & Natural Resources*, **31** (5), 515–24.
- Stawkowski, Magdalena (2016), “‘I Am a Radioactive Mutant’: Emergent Biological Subjectivities at Kazakhstan’s Semipalatinsk Nuclear Test Site”, *American Ethnologist*, **43** (1), 144–57.
- Stawkowski, Magdalena (2017), “Life on an Atomic Collective: The Post-Soviet Retreat of the State in Rural Kazakhstan”, *Études Rurales*, **200**, 196–219.
- Watters, Kate (2009), “The Fight for Community Justice against Big Oil in the Caspian Region: The Case of Berezovka, Kazakhstan”, in Julian Agyeman and Yelena Ogneva-Himmelberger (eds.), *Environmental Justice and Sustainability in the Former Soviet Union*, Cambridge, MA: MIT Press, pp. 153–88.
- Weinthal, Erika (2002), *State Making and Environmental Cooperation: Linking Domestic and International Politics in Central Asia*, Cambridge, MA: MIT Press.
- Wheeler, William (2021), *Environment and Post-Soviet Transformation in Kazakhstan’s Aral Sea Region*, London: UCL Press.
- White, Kristopher (2019), “Environmental Issues in Kazakhstan”, in Ali Farazmand (ed.), *Global Encyclopedia of Public Administration, Public Policy, and Governance*, Cham: Springer, pp. 1–7.
- Williams, Austin (2017), *China’s Urban Revolution: Understanding Chinese Eco-Cities*, New York: Bloomsbury.
- Ybarra, Megan (2018), *Green Wars: Conservation and Decolonization in the Maya Forest*, Oakland, CA: University of California Press.
- Yeh, Emily (2009), “Greening Western China: A Critical View”, *Geoforum*, **40** (5), 884–94.
- Yeh, Emily (2013), “The Politics of Conservation in Contemporary Rural China”, *The Journal of Peasant Studies*, **40** (6), 1165–88.
- Yessenova, Saulesh (2015), “The Political Economy of Oil Privatization in Post-Soviet Kazakhstan”, in Hannah Appel, Arthur Mason and Michael Watts (eds.), *Subterranean Estates: Life Worlds of Oil and Gas*, Ithaca, NY: Cornell University Press, pp. 281–98.
- Zhang, Li and Aihwa Ong (2008), *Privatizing China: Socialism from Afar*, Ithaca, NY: Cornell University Press.
- Zhou, Yu (2015), “State Power and Environmental Initiatives in China: Analyzing China’s Green Building Program through an Ecological Modernization Perspective”, *Geoforum*, **61**, 1–12.