

**THE GEOPOLITICS OF CLIMATE CHANGE IN GREENLAND:
SUPERPOWERS AND SMALL STATES**

by

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ABSTRACT

This dissertation asks why and how Greenland became a focal point of U.S.–China competition between 2009 and 2021. The answer is climate geopolitics: the anticipated impact of long-term climate change on geography and its implications for national power, interest, and strategy. I posit that the anticipation of future climate change can have significant geopolitical consequences before the salient geophysical impacts actually arrive. Under certain conditions, this can give small polities substantial leverage to bargain for better outcomes. Taking Greenland as a case study, I show how the China and the United States conceptualize Greenland’s geographic significance in a future Arctic transformed by climate change. I then show how Greenland has exploited these perceptions to bargain for profit and autonomy. I discuss how this geopolitical dynamic shaped negotiations over three Chinese-proposed mega-deals with Greenland: to acquire land, build critical infrastructure, and operate a mine. Finally, I show that China is now extrapolating the logic of climate geopolitics to acquire access and influence in other climate-exposed island states: the Faroe Islands, Iceland, Maldives, and Kiribati. Analytic methods are discourse analysis and process-tracing. Sources include 36 elite interviews and government reports, company documents, academic papers, and newspaper articles in English, Chinese, and Danish.

CHAPTER 1

Introduction

1.1 The argument in brief

This dissertation answers the following question: why did Greenland, a remote island territory of only fifty-six thousand people within the Kingdom of Denmark, become a world-famous focal point of geopolitical competition between the United States and China between 2009 and 2021, as well as an autonomous actor capable of engaging with both superpowers as a peer? It considers localized explanations, including Greenland's mineral wealth and domestic politics, and finds them insufficient to explain the change. Instead, it hypothesizes a global and structural explanation: the U.S.-China rivalry is evolving as the superpowers begin to plan and prepare for the rippling, long-term geopolitical implications of future climate change. One way that this phenomenon has manifested is by intensifying competition for access and influence in small, climate-exposed island polities. Under the right conditions, I find that these polities can exploit the superpowers' uncertainty and insecurity about long-term climate change to increase their agency and bargain for better outcomes.

China was the first to move. In open-source publications, Chinese government analysts and Arctic experts at leading universities concluded as early as 2012 that climate change will eventually turn Greenland into a geostrategic prize—and in the process could transform it from a possession of Denmark, a close U.S. ally, into a potential Chinese strategic partner. This assessment was based on an analysis of the likely long-term geographic changes that climate change would create in Greenland's neighborhood. First, the Chinese analysts assumed that sea ice melting will make Greenland's geographic location astride the sea lanes connecting the Central Arctic Ocean and the North Atlantic more

geopolitically valuable. It will also open new opportunities for maritime trade along the so-called Northern Sea Route (NSR). Second, they assumed that climate change will indirectly make Greenland's rare earth mineral resources more valuable, both because the changing terrain will make them cheaper to extract, and because the global demand for renewable energy equipment will grow. The Chinese analysts concluded that Greenland would eventually acquire the political leverage and financial resources to complete its process of independence from Denmark and become the "first sovereign state created by climate change" (Xiao 2018).

The Chinese state and a range of Chinese firms and scientific research organizations, acting in concert, acted on this analysis and tried to speed the process of Greenlandic independence along through a range of geoeconomic ventures. Chinese banks, state-owned enterprises, and nominally private firms pursued a range of commercially questionable deals in Greenland, including debt-financed investments in Greenland's strategic infrastructure. They did so in much more coordinated fashion than the literature on Chinese commercial diplomacy would predict.

The United States government observed and analyzed China's actions, identified similar reasons that Greenland was becoming more geopolitically important, and developed its own strategy to compete. Over the course of several years, China and the United States devoted disproportionate attention and resources to Greenland as they competed to win over the island's political elites. The United States also pressured Denmark to support this policy, or at least acquiesce to it. In 2019, President Donald Trump provocatively offered to buy Greenland outright, causing a public diplomatic rift with Copenhagen. While Greenland has been seen as geopolitically important before, including during the Cold War, this was the

first time in history that this small and remote polity had received so much *diplomatic* attention and economic support. For the first time in history, great powers began to treat Greenland not as a dependent territory but as an independent actor, and even at times as a potential future power broker in a changing Arctic.

China's attempts to invest in Greenland also foreshadowed a broader shift in the nature of the global U.S.–China geoeconomic competition. As the two superpowers competed for access and influence in Greenland, they came to understand that planning for long-term climate change in Greenland and planning for their long-term rivalry in Greenland are one and the same thing. By the late 2010s, both sides had begun to apply a similar strategic logic to their interactions with other small island states exposed to disruptive climate change, linking climate adaptation assistance, broadly construed, to the implicitly zero-sum U.S.–China geopolitical rivalry. Greenland is globally significant because it may be the first clear-cut case study of this emerging trend.

To explain why this shift in U.S.–China competition occurred and theorize how it has evolved over time, I develop a concept of *climate geopolitics*. I define climate geopolitics as the expected impact of future climate change on geography and its implications for national power, interest, and strategy. Climate geopolitics updates the analytic framework of *classical geopolitics* by importing insights and methods from *critical geopolitics* (O'Tuathail 1996). It accepts most of the basic premises of classical geopolitics: its goal is to help policymakers map the global distribution of power and conduct effective foreign policy. However, it acknowledges that in the twenty-first century, the future of geography is less certain than it was in the nineteenth and early twentieth centuries when the seminal works of classical geopolitics were written (Mahan 1890, Mackinder 1904, Spykman 1942, Spykman 1944).

Man-made climate change is already materially changing geography in many regions of the world, particularly the polar regions. The speed, magnitude, and precise geographic distribution of future climate change is highly uncertain—especially over the long term. These changes will have cascading social and political consequences that could affect long-term trends in physical and human geography in indirect and unpredictable ways. As a result, geography is no longer a fixed and permanent feature of the world. When policy makers and states today do long-term planning, they must consider not one geographic reality, but a multitude of potential ones.

Climate geopolitics is about how states and policymakers analyze and prepare for these uncertain futures. It is about how they interpret scientific projections, speculate about the potential second- and third-order effects of climate change over the long term, and observe other states' behavior for signals of how they intend to adapt to this new reality. For reasons discussed in more detail later in this chapter, climate geopolitics is distinct from the *environmental geopolitics* of Shannon O'Lear and the *polar geopolitics* of Klaus Dodds and Richard C. Powell. Unlike critical geopolitics, the purpose of my theory is not to challenge the validity of geopolitical knowledge itself, but rather to understand why great powers act the way they do under conditions of climate-related uncertainty, with the goal of clarifying policy makers' thinking and informing their decision-making.

The theory of climate geopolitics illuminates the behavior of each state actor in the Greenland case. Analysts and policy elites in China, the United States, and Greenland developed their own ad-hoc frameworks and strategies that accept the premises of climate geopolitics, even though they did not name the concept explicitly. Climate geopolitics explains why all sides perceive Greenland to be strategically valuable, why Denmark

perceives Greenland to be so important to its national security, why China wants to establish a foothold there, and why the United States believes that preserving influence over Greenland is worth straining relations with Denmark. Above all, climate geopolitics explains why and how Greenlanders developed a bargaining strategy to exploit these facts. This dissertation is the first scholarly work to articulate and theorize a general concept of this emergent phenomenon, to compare and contrast how the United States and China are assessing it, and to explore how the superpowers operationalize climate geopolitics through case studies.

Even though competing great powers are the dominant actors within climate geopolitics, I find that climate geopolitics can enhance small states' agency under certain conditions. Over the course of the period studied, Greenlandic politicians developed their own conception of climate geopolitics and attempted to exploit their country's growing geopolitical importance to the superpowers to bargain for autonomy and profit. These ideas and actions, in turn, pushed China and the United States to develop and refine their own concepts of climate geopolitics, even though the chain of events they set in motion spun out of Greenland's control. Small state bargaining under climate geopolitics is a double-edged sword. Becoming a focal point of superpower competition can bring material and status benefits to a small state, but it can also destabilize the geopolitics of the surrounding region and jeopardize the small state's autonomy. This finding has implications for other small island states, particularly in the South Pacific, Indian Ocean, and Caribbean, that are currently seeking external support for their own climate adaptation efforts.

My periodization begins shortly after Greenland's 2008 referendum to move toward independence from Denmark. Before this, Greenlandic territory had held geopolitical significance to various degrees for several decades, and at times had exercised geopolitical

agency—for example, by voting to exit the European Union. But because Copenhagen enjoyed sweeping legal authority over Greenland’s natural resources and internal governance the Greenlandic people were formally constrained from choosing their geopolitical destiny. This changed dramatically with the ratification of the Self-Government Act in 2009, in which Denmark accepted in principle that Greenland was working towards eventual full independence. The Act also devolved new competencies to the Greenlandic government which allowed Greenland for the first time to undertake a sustained and high-profile effort to prepare for full independence through state institutions, and to interact as a peer with other states through diplomatic and trade channels that Denmark did not control. Over the following decade, Greenlandic politicians from multiple parties made provocative statements and began to actively court new investment and trading partners, with a particular interest in strategic large-scale infrastructure projects. While I briefly discuss the geopolitics of Greenland prior to 2009 in Chapter 6, this history is only indirectly relevant to my research question.

Methodologically, the dissertation uses discourse analysis and contemporary political history to characterize the major stakeholders. Then it uses process tracing to show how they operationalized their ideas as China tried to invest in Greenlandic strategic infrastructure between 2009 and 2021. Finally, it tests whether the patterns of superpower and small state behavior identified in Greenland map onto four other small island polities—Iceland, the Faroe Islands, Kiribati, and Maldives. Sources include government reports, company documents, academic papers, and newspaper articles in English, Chinese, and Danish, plus forty elite interviews.

1.2 Structure of the dissertation

My argument unfolds in four parts. This chapter—Chapter 1—briefly maps out the structure of the dissertation, introduces the concept of climate geopolitics, provides some essential regional context for the Greenland case, and explains how climate geopolitics emerged in the Arctic. Chapter 2 locates my study at the intersection of four scholarly literatures and explains how it contributes back to each one. It elaborates in more detail on the relationship between climate geopolitics and existing theories of classical and critical geopolitics, and discusses the literatures on Arctic climate modeling, the global U.S.–China geopolitical and geoeconomic rivalry, and of the alignment and bargaining behaviors of small states and sub-national polities. Chapter 3 locates the project within the field of Area Studies and describes my sources, data collection methods, and analytical tools.

The first three empirical chapters examine the key country-level stakeholders, tracing how the climate geopolitics strategies of China, the United States, and Greenland and Denmark co-evolved between 2009 and 2021. Chapter 4 discusses how Chinese security analysts and Arctic scholars came to believe that climate geopolitics is an opportunity to extend Chinese influence into far-flung regions and erode U.S. influence. Chapter 5 examines how U.S. political leaders and senior military and intelligence officials reached a striking bipartisan consensus on the nature of climate geopolitics by the late 2010s, largely prompted by China’s approaches to Greenland. Chapter 6 shows how Greenlandic and Danish politicians understand the relationship between climate change and the U.S.–China rivalry, and how Greenland exploited climate geopolitics to engage the superpowers and gain leverage over Denmark within the Danish Realm.

The final chapters discuss how climate geopolitics is operationalized. Chapter 7 explores how climate geopolitics operates in the negotiation of specific deals and partnerships, interacting dynamically with domestic politics. The chapter discusses in detail China's three most prominent attempts to invest in Greenland: a potential land sale (the Grønnedal port), a potential debt-financed investment in strategic infrastructure (the Kalaallit Airports), and a rare earths and uranium project (the Kvanefjeld mine and processing facility), showing that Chinese actors systematically acted on the geoeconomic playbook articulated in Chapter 4. Chapter 8 compares Greenland to four potentially comparable small polities, concluding that several of the notable features of climate geopolitics in Greenland appear to apply transregionally. Chapter 9, the conclusion, takes stock of my findings, reflects on the limitations of the project, and proposes an agenda for further research.

1.3 Climate geopolitics

The classical definition of *geopolitics* is the influence of geography upon the foreign relations of states (O'Sullivan et al. 2017). The foundational theorists of the Anglo-American school—Halford Mackinder, Alfred Thayer Mahan, and Nicholas Spykman—believed that geopolitics was a quasi-scientific enterprise since geography was immutable and at least partially determined the strategies and fates of nations. The central claim of classical geopolitics was that the earth, and the distribution of land, water, and resources upon it, was a central organizing force in the global balance of power; and that those powerful states seeking security and expansion would inevitably compete for control of geographically favorable positions.

Geoeconomics is a closely related concept to classical geopolitics (Hirschman 1980). The term is used in various ways but most commonly describes the “systematic use of economic instruments to accomplish geopolitical objectives” such as advancing the state’s political power in the international system (Blackwill and Harris 2016). Most classical theories of geopolitics and geoeconomics focus on the primacy of great power competition in the global balance of power. They assume that at least some great powers are offensively rather than defensively inclined, and that most great powers assume their rivals are offensively inclined, looking for opportunities to “acquire increments of power” at their potential rivals’ expense, and ultimately to seek hegemony. While classical geopolitics and geoeconomics acknowledge that sub-national actors and small states can have significant agency, they focus primarily on the interests and strategies of the great powers.

One foundational assumption of classical geopolitics is that geography is essentially immutable and predictable. As Spykman put it at the height of World War II: “geography is the most fundamental factor in foreign policy because it is the most permanent” (Spykman 1944). The driving force of change in geopolitics is not geography, but rather technology, which alters how human beings and states interact with geography. To be sure, human interventions such as the construction of the Great Wall of China or the Suez Canal can make discrete changes to geography, with significant consequences for regional and global order. Yet these are one-off interventions that do not create uncertainty about potential future changes in geography. They simply create new facts to which all states can and do immediately respond, resulting in a new geopolitical equilibrium.

Crudely speaking, classical geopolitics would predict that the United States and China would want to establish operational facilities in all major regions of the globe, control key

sea lanes and transit corridors, and monopolize access to critical resources. It would suggest that Greenland is geopolitically important to the superpowers insofar as influence and access in Greenland tilts the balance of power in this global competition. Since the Arctic Ocean is too icy to allow for easy surface navigation and profitable mining in Greenland, facilities in the region have historically been useful mainly as bases for aviation and missile defense, or as satellite ground stations. When the seminal works of classical geopolitics were written, in the nineteenth and early twentieth centuries, few theorists thought that this made the Arctic a strategic prize. To Spykman and the naval theorist H.P. Smolka, the frozen Arctic Ocean might as well have been an impenetrable land barrier. No meaningful sea lines of communication passed through it (Smolka 1938, Spykman 1944, Antrim 2010).

Climate change challenges the assumption that geography is fixed and predictable. In the twenty-first century, the human and physical geography of many regions of the world is likely to change significantly. Sea level rise, melting permafrost and sea ice, coastal erosion, changing rainfall patterns, and other climatic effects will impact major cities, critical infrastructure. They are already affecting the distribution of accessible food, water, and minerals. In some geographic areas, like the waters of the Central Arctic Ocean, climate change will make it easier to navigate, operate, and extract resources. In other areas, like the Siberian tundra, climate change will make these activities more difficult and expensive. In low-lying states like those discussed in Chapter 8, climate change could change the shape of coastlines and even submerge entire polities, resulting in state death (Ker-Lindsay 2016). International law has no precedent for such dramatic geographic changes, which could further complicate geopolitical competition (Wong 2012).

These changes in geography will have rippling and uncertain implications for human society, and in some cases are intrinsically unpredictable. Among other things, they are linked to technological and economic trends, such as the transition from fossil fuels to renewable energy, which turn will affect the distribution of wealth and power between states, and therefore indirectly affect their carbon emissions (Gustafson 2021). Changes in physical geography could also have sweeping implications for human geography by changing migration patterns, though the extent to which this will happen remains an open question in the literature. While the fact and importance of climate-induced geographic change is obvious, the nature of the change is not. These changes altogether are too complex to model, so in the age of climate change geopolitical analysis must take on a contingent and speculative character, even to practitioners who accept the premises of classical geopolitics that geography has some kind of deterministic relationship to power and interest.

If the future pathway of Arctic geography under climate change were clear and understood by all states, then classical geopolitics would still basically apply because there would remain a single common understanding of geographic reality. Over time, for example, classical geopolitics might predict that Greenland's changing geography would open up more commercial and strategic opportunities related to ocean shipping, making it steadily more important to the great powers. This would probably manifest as a gradually intensifying competition for access and influence in and around Greenland.

However, as this dissertation will show empirically, this is not what happened. When Greenland emerged as a geopolitical prize, the trigger was not new knowledge about the nature of climate change, but rather great powers' *perceptions* of how one another might respond to these climate changes, triggering competitive escalation. In other words, to predict

when and how Greenland would emerge as a major site of great power competition, it was not enough to know how or even at what rate the geography was changing. It was also necessary to understand how the key state actors—and the sub-national actors that drove state behavior through their participation in elite politics—conceptualized the meaning of these geographic changes and perceived other states’ perceptions and likely responses.

To generalize the point, all great powers recognize that climate change exists, and is accelerating, and that this will create new geographic conditions to which they will have to adapt. Yet the speed and nature of the long-term trend is uncertain, as are rival powers’ likely reactions to these changes. States need to make trade-offs about how to expend scarce resources in the face of this ambiguity and temporal uncertainty. How heavily should they discount their expectations about the nature of geographic change in the far future? How should they interpret each other’s intentions? What are the opportunity costs of adapting to climate change today versus deferring adaptation until tomorrow? How the great powers answer these questions will dictate how they should allocate their attention and resources and what strategies and tactics they should adopt.

The field of critical geopolitics has produced some useful tools for handling this epistemological challenge. Critical geopolitics analyzes and deconstructs the discourses that shape policymakers’ thinking, as well as the discourses that states use to justify their actions (Ó Tuathail 1999).¹ It has various subfields and subsidiary theories that shed light on my research question. *Polar geopolitics* notes that states’ perceptions of the Arctic are “ambivalent” and characterized by uncertainty, partly because of expected climate change

¹ Gearóid Ó Tuathail, “Understanding Critical Geopolitics: Geopolitics and Risk Society,” *The Journal of Strategic Studies* 22, no. 2-3 (1999): 107–124.

(Powell and Dodds 2014). *Environmental geopolitics* investigates how environmental themes interact with geopolitical ideas (O’Lear 2018). Critical geopolitics often claims that its broader aspiration is to describe the recursive interconnections *between* geopolitical discourses and geography itself. For example, Shannon O’Lear acknowledges that discourses “shape actions and outcomes,” noting that in the Anthropocene, the new geologic era in which human activities are altering the planet’s natural systems, discourses are inevitably “intertwined with tangible [environmental] realities” (O’Lear 2018, 26).

The weakness of critical geopolitics for the purposes of my research question is that it rejects the very premises of classical geopolitics that make it useful and attractive to policy makers. The central premise of critical geopolitics is classical geopolitics tries to “naturalize” knowledge claims in misleading ways “by offering a viewpoint [geography] that is presumed to be universal and unquestionable” (O’Lear 2018, 13). On the contrary, critical geopolitics asserts that “there is never a single, correct geopolitics” (O’Lear 2018, 26). Geopolitical discourses provide no “form of objective understanding or truth about how the world is” because they are simply narratives about the world that serve the interests of particular actors at particular points in time. O’Lear for example writes that the purpose of her book is critique, complicate, and above all “interrupt” the dominant discourse’s “god-trick of objectivity” (O’Lear 2018, 13). Thus, even though critical geopolitics provides a helpful methodology for analyzing how discourses are constructed and communicated, its anti-authoritarian bent and refusal to accept the possibility of geographic truth make it poorly suited for policy makers who hope to use geopolitical heuristics to make sense of the world and take action within it.

My concept of climate geopolitics bridges the classical and critical schools, importing concepts from the latter into the former. It describes both the *actual* distribution of resources, terrain, facilities, and population across space, and the *discourse* through which policymakers perceive and respond to that reality. Climate geopolitics, as I define it, captures a *process of recursive interactions* between state actions and the discourse regarding the range of plausible imagined geographic futures.

I contend that states experience climate geopolitics in two common ways. First, climate geopolitics is a *long-term* phenomenon, disconnected from the daily churn of domestic politics. Caught up in local power wrangling, even those politicians or governments who believe that climate geopolitics is important may choose to defer action. Others may not consider it deeply, judging that it is irrelevant to their immediate interests or a dangerous distraction from the more pressing task of climate mitigation. Climate geopolitics therefore relates to the domestic politics of how states manage temporal uncertainty. Second, climate geopolitics is an intrinsically *ambiguous* phenomenon, in that it can present a wide range of foreseen or unforeseen risks and opportunities. The role of national interest under climate geopolitics is less immediately obvious than in other contentious areas of dispute. Based on how the relative importance and likelihood of opportunities and risks are weighed, there can be more than one rational strategy for climate geopolitics. This means that maps and deductive logic alone are insufficient to analyze and practice climate geopolitics effectively.

Great powers and small states experience climate geopolitics differently. To a small state, climate geopolitics is *exogenous*. It affects the entire world and region surrounding a small state and is largely beyond the small state's control. Greenland is a good example. Greenland has no policy tools to mitigate the course of future climate change. In 2019, it

represented only 0.000015% of global greenhouse gas emissions. Greenland therefore do little to affect the nature of geographic change in the Arctic, though it can choose how it wishes to respond. These changes may present an opportunity if Greenland can leverage its newfound relevance as a bargaining tool for autonomy or profit. Climate change might push lucrative fisheries stocks to migrate into Greenlandic waters, make drilling and mining in and around Greenland commercially viable, and open shipping lanes from which Greenland could extract rents and build a new service economy. Alternatively, climate change (and the resulting phenomenon of climate geopolitics) could be a risk for Greenland. It could incentivize larger powers to fish in Greenlandic waters, pollute the regional environment through commercial activities, or deploy military assets around Greenland as competition between them heats up, threatening Greenland's security and sovereignty. Greenland will likely have some agency in this process, but it is not obvious in advance how much, and in what ways. In deciding whether climate geopolitics represents an opportunity that should be taken up, or a threat to hedge against, Greenland therefore has to weigh the potential impacts of these speculative possibilities based on the limited information available. It then must make a holistic judgment and take policy action, updating its assessments periodically as it gains new information.

By contrast, for China, the United States, or Russia, climate geopolitics is partly *endogenous*. As the largest, second-largest, and fourth-largest carbon emitters, respectively, all three are important parties to any global emissions deal—and each, if it wished to do so, could potentially influence or scuttle such a deal. Great powers must therefore continually observe each other for signals of intended future emissions pathways, and regularly update their expectations about the cascading implications for the global emissions pathway. For

example, in 2017, Donald Trump announced that the United States would withdraw from the Paris Climate Agreement. This was a climate mitigation deal, but it had implications for climate adaptation geopolitics. U.S. withdrawal made it less likely that other large emitters would adopt more stringent emissions targets, implying that the world was now more likely than before to breach the critical two-degree warming tipping point than it had been before Trump's election. If a smaller emitter like Greenland had withdrawn from Paris instead, the effect would have been very different. Similarly, if one great power adopts a clear-cut policy toward climate *adaptation*, it can alter the other great powers' perception of the various possible climate-geopolitical futures.

This dissertation draws category distinctions between the United States and China, Russia, and Greenland and Denmark. By my definition, the United States and China are *superpowers* because they are the only two states with the resources to engage in a truly global competition. In the context of the Arctic region, Russia is a peer of the superpowers. Yet Russia lacks the global reach and economic power projection capabilities of the other two, so it does not qualify as a *superpower*. In this regional context, I call all three *great powers*. The category distinction between *superpower* and *great power* is not hugely significant in the context of this dissertation, but it is worth drawing, and explains why Russia is not considered in the transnational cases in Chapter 8. By contrast, Denmark is a *small state*. Greenland, as an autonomous polity within the Danish Realm, is not a sovereign state at all, but in the context of this dissertation it often acts like one, pursuing foreign policy goals in defiance of Denmark's wishes. For ease of reference, I sometimes refer to Greenland as a small state, too.

Interactions between superpowers and small states under climate geopolitics are complex and irreducible to simple models. With so much uncertainty regarding technological progress, political economy, and the geopolitics of climate mitigation, no state knows *ex ante* which emissions scenario will turn out to be correct. Climate geopolitics also exists concurrently and interactively with other variables, including domestic politics. Due to all these confounding factors, climate geopolitics is necessarily a descriptive theory, not a predictive one.

Yet it might be theoretically possible to predict how individual states will approach specific challenges posed by climate geopolitics. States and militaries often outsource long-term strategic planning to think tanks, universities, and government ministries, which use simulations, wargames, and scenario-building to assess risk and make policy recommendations under uncertainty (Smith 2013, Walker 2013). Individual politicians and decision makers then tend to use perceptions, narratives, and other heuristics to interpret their findings and cut through complexity and ambiguity to get to the bottom line. These patterns of planning and thinking have common features, which the fields of behavioral economics and international relations have theorized and studied experimentally (Kahn 2015).

Methodologically, this dissertation studies how states form and implement their climate geopolitics strategies by combining discourse analysis with contemporary political history. It focuses on two groups of social and political elites: scholars and analysts within influential institutions, and politicians who comment publicly on their findings. Discourse analysis is an imperfect tool for studying policy formation; it poses problems of selection bias and source reliability. Yet discourses can also influence and reveal policymaking processes in certain countries and contexts. In China, it is often impossible to tell whether the

scholars and policy analysts who write about the country's Arctic policies are influencing policy formation or merely commenting on it. Yet these documents are the only reliable windows into Chinese elite opinion on climate change, since party media and state communications stick to an anodyne and rigid set of talking points. In Greenland, policy formation is highly informal, so statements from prominent politicians are often more reliable than written sources. In the United States, both types of sources are available, making it possible to draw more comparisons and contrasts. Regardless of the context, the rigorous study of climate geopolitics requires suspending judgment about the content of the discourse and seeking to determine what those in power think—even if their assumptions and logics are imprecise, incoherent, and unpersuasive.

How can we recognize climate geopolitics when we see it? How can we define it so that it is falsifiable and distinguishable from classical geopolitics? I propose a three-part test. For my hypothesis about climate geopolitics to hold, the governments of the United States and China, or a broad sample of politicians or experts close to their policymaking processes, must meet three criteria:

1. They must assume that future geography will differ from present geography as a result of climate change, in ways that allow for some uncertainty about the nature or speed of the change;
2. They must believe that other states perceive this, observe how they are adapting, and calibrate their analysis accordingly;
3. They must assess the balance of risk and opportunity from these first- and second-order effects and make a net assessment for national power, interests, and strategy.

Because I am looking for evidence of climate geopolitics *avant la lettre*, these criteria do not require that I prove that the United States and China have specifically named the phenomenon that I call climate geopolitics, nor that they have theorized it exactly as I have. However, I do need to show that both superpowers have formulated and accepted a concept of climate geopolitics consistent with my own—and applied it to Greenland in a consistent pattern of analysis and action.

1.4 Greenland as a case study

The Arctic is the most straightforward regional case study for studying climate geopolitics, for three major reasons. First, the Arctic is *virtually certain* to continue warming. This implies that surface area of the Arctic covered by impassable ice coverage will change dramatically by mid-century, effectively transforming the region’s geography. Second, Arctic climate change can be predicted with relatively high specificity through mid-century, but less so afterwards, with the rate of long-term change highly dependent on future emissions scenarios. Third, as I discuss in more detail in Appendix B (“Interpreting uncertainty in climate modeling”), tail risks will remain even in ultra-low emissions scenarios. States with interests in the region, and states capable of long-term planning, therefore need to plan for Arctic geographic change. Putting these findings together, this section argues that the Arctic—and Greenland in particular—provides the cleanest case study for examining the geopolitical implications of these expected geographic changes.

The trend of Arctic sea ice retreat is dramatic, ongoing, and almost certain not to reverse. Arctic sea ice at its September nadir has declined at a constant rate since 1979, when regular data collection began, and is now reduced by about 40% from baseline (National Ice

and Snow Data Center 2021). Even under the Intergovernmental Panel on Climate Change’s (IPCC) most optimistic emissions scenario, the Arctic is considered “likely” (>51% probability) to be “practically sea ice free in September at least once before 2050” (IPCC 2021). Under higher-emissions scenarios, Arctic warming is expected to be even greater, and to accelerate faster in the next few decades. One study finds that the Central Arctic Ocean could be ice-free in the summer as soon as the 2030s (Peng et al. 2020). During periods of low ice coverage, large expanses of the Arctic maritime domain become navigable by surface vessels. Critically, this melting trend is locked in regardless of the world’s emissions pathway. The IPCC’s Sixth Assessment Report (AR6) Summary for Policymakers assesses that it is “virtually certain” (>99% confidence) that the Arctic “will continue to warm more than global surface temperature, with *high confidence* above two times the rate of global warming” (IPCC 2021). From a geopolitical perspective, the pathway of future climate change in the Arctic is therefore more immediate, dramatic, and, most importantly, *predictable* than in any other region of the world.²

Within the Arctic, no territory will experience more dramatic geophysical change than Greenland. The continued melting of the Greenland Ice Sheet (GIS) also appears *virtually certain* over a multi-century time horizon (IPCC 2021; Nordhaus 2018). Most of the literature on the impact of Greenlandic glacial melt on global sea levels and local ecosystems takes for granted that this is inevitable, and that the only question is how fast the melting will proceed (Saros et al. 2019). Projections for future centuries have very wide confidence

² The confidence intervals in the projections of Arctic sea ice are quite narrow compared to projections of other climate effects like precipitation that matter greatly in other regions of the world. For example, the IPCC models assess far less confidence in their projections of future trends in the Antarctic sea ice (IPCC 2021).

intervals, but they illustrate that the long-term trend in global average sea level rise is likely to continue, ultimately reaching several meters above current levels (IPCC 2021).

These geographic changes will make Greenland more valuable to the great powers. Greenland is located astride the shipping lanes that will link the Arctic Ocean to the North Atlantic when the sea ice in the Central Arctic Ocean melts around mid-century. Under the Greenland Ice Sheet lie vast resources of uranium, rare earth elements, gold, and other minerals, which are not commercially viable under current market conditions but which could become valuable as the ice retreats, the costs of extraction fall, and commodity prices rise. Most importantly from the perspective of the United States, Greenland sits at the center of a geographic buffer zone for the North American continent against air-based attack from the north. These distinctive geographic features give Greenland a significance in climate geopolitics out of proportion to its population and GDP. They could also potentially give the Greenlandic government bargaining leverage that it has not enjoyed in past periods of geopolitical tension in the region, such as in the Cold War.

Other small Arctic polities are being affected by similar trends, but not to the same degree. The Faroe Islands and Iceland, discussed in Chapter 8, are already located in ice-free seas and do not enjoy untapped resources of mineral wealth that will open up as the climate warms. The only other Arctic island polity with comparable geographic value to Greenland is Svalbard. But Svalbard is *sui generis*. Most of its population consists of seasonal visitors from Norway, so it is not an autonomous political actor. Moreover, all the world's major powers are signatories to the Spitsbergen Treaty, which grants them access to Svalbard for peaceful purposes but commits them collectively to preserving the archipelago as a permanently demilitarized zone (Ingimundarson 2018).

The melting of the Greenland Ice Sheet is a separate issue and is, perhaps surprisingly, only indirectly relevant to the discussion of climate geopolitics in this dissertation. Most settlements and critical infrastructure in Greenland itself are built high enough above sea level that they are not directly vulnerable to sea level rise (SLR), at least over a timescale of decades. SLR will have more immediate and significant geopolitical implications in low-lying island and coastal states in other regions than in the Arctic.

With SLR, as with Arctic sea ice retreat, the climatological models' predictions are quite precise (see Appendix B). By 2050, the mean projections for global mean SLR vary by only a few centimeters across the five baseline emissions scenarios.³ Only in the second half of the century do the scenarios meaningfully diverge.⁴ This means that, in the short term, SLR will do relatively little damage in Greenland itself. It will have a much greater impact on lower-lying small island polities, such as the Maldives and Kiribati, where it poses a potentially existential threat. Just as the direction and pace of Arctic ice melt are locked in and relatively predictable over the next four decades, so too are the direction and pace of SLR (IPCC 2021).

In sum, the scientific models suggest that we would expect climate geopolitics to manifest first in Arctic polities such as Greenland, and next in low-lying small island states globally. This is because the clearer the future direction of geographic change, the further ahead states can plan.⁵ Climate geopolitics may appear in other regions and contexts as well,

³ The median estimate for global mean SLR by 2050 is 18 centimeters in the lowest-emissions scenario and 22 centimeters in the highest (IPCC 2021, 16).

⁴ SLR is much more sensitive to the emissions pathway over the longer term. The AR6 median projections for the year 2150 are 57 centimeters in the lowest-emissions SSP and 199 centimeters in the highest.

⁵ Other aspects of climate change will doubtless have geographic and geopolitical implications, too. The rise in global average atmospheric temperatures, the impact on precipitation, and the frequency and intensity of extreme weather events, are not necessarily less important than ice melt and SLR; they are simply harder to predict precisely and therefore harder to plan for. The further into the future the IPCC projects, the less precise

though states have little reason to undertake costly action to prepare for future geographic change when the scientific models are ambiguous about the long-term nature of that change.

States' awareness of the scientific facts of climate change is clearly a contributing factor in why Greenland has emerged as a geopolitical prize, but it is not by itself a sufficient explanation. The projections that the Arctic was on track for transformative melting were clear for at least a decade before climate geopolitics emerged (IPCC 2007). Nevertheless, from the late stages of the Cold War through the early 2010s, the Arctic was one of the most peaceful and geopolitically stable regions on earth. In January 2009, the outgoing U.S. administration of George W. Bush released an Arctic Strategy that explicitly acknowledged the prospect of future climate change in the Arctic. The Barack Obama administration made similar statements acknowledging Arctic climate change, but Obama's 2009 National Security Strategy stated that the United States' top policy priorities for the Arctic were search and rescue and environmental conservation. Neither administration evinced any expectation that the region was on the verge of becoming a geopolitical hotspot. Washington did not perceive China as a significant economic or political rival—it even supported Beijing's application for observer status in the Arctic Council in 2013.

To explain the rise of Greenland as a geostrategic prize, we therefore need a theory of what prompted the great powers to interpret the same set of scientific facts in a new light. The answer, I hypothesize, is a sudden confluence of global, regional, and sub-national forces that can be summed up as the emergence of a climate geopolitics discourse in the United States and China.

all its estimates become and the more they depend on an unknowable variable: the future global emissions pathway.

1.5 Conclusion

This chapter has set the stage for the dissertation to come. It has introduced the research question, placed it in an Arctic regional context, and hypothesized that a broader global trend was the key explanatory variable. It has posited a theory of climate geopolitics, arguing that the analytic framework of classical geopolitics needs to adopt new critical tools. Finally, it has applied this theory to the U.S.–China rivalry, hypothesizing that the competitive relationship between the two great powers is increasingly shaped by the anticipation of future climate-induced geographic change and its cascading implications.

CHAPTER 2

Literature Review

2.1 Introduction

This chapter situates my investigation of the U.S.-China rivalry in Greenland within several overlapping English-language scholarly literatures and defines relevant terms. First it reviews the empirical literature on the geopolitics and security implications of climate mitigation and adaptation. It identifies here a gap that this dissertation will partially address: the need for a descriptive analytic framework to help policymakers assess and plan for the cascading geopolitical impacts of great power competition under climate change.

The rest of the chapter discusses how the theoretical construct of climate geopolitics, explored through a close examination of the Greenland case, can inform empirical debates about the general nature of U.S.-China geoeconomics competition and its interaction with small states. I discuss the literature on the Belt and Road Initiative and U.S.-China geoeconomic competition, with a focus on superpower tactics and small state responses. I conclude that this literature does not adequately consider the role of climate adaptation, and that Greenland is a suitable case study for investigating the link between climate adaptation and geoeconomics. Finally, I discuss the literature on the alignment behaviors, development strategies, and foreign policies of small states in general, and of Greenland in particular. Based on this discussion, I hypothesize that Greenland will have substantial agency in negotiating with the superpowers under climate geopolitics.

2.2 Mitigation and adaptation

Climate change poses two distinct categories of policy challenge: mitigation and adaptation. The IPCC defines mitigation as “human intervention to reduce the sources or enhance the sinks of greenhouse gases” (IPCC 2015, 125). Adaptation, by contrast, is “the process of adjustment to actual or expected climate and its effects” (IPCC 2015, 118). Mitigation and adaptation require different policy interventions and have distinct geopolitical logics. This section argues that the geopolitics of adaptation has been understudied, and that policymakers would benefit from a holistic analytic framework to help them form *net assessments* and long-term adaptation plans.

The geopolitics of mitigation is characterized by a classic *moral hazard* or *tragedy of the commons* problem (Hardin 1968). The cost of emissions in most of the world is usually externalized (Aylor et al. 2020). This incentivizes individual countries to free ride while others reduce their own economic competitiveness by undertaking expensive decarbonization. The geopolitics of mitigation therefore relate to issues such as enforceable targets for decarbonization, carbon taxes or emissions trading schemes, or state-led investment (Metcalf and Weisbach 2009).

The U.S.–China rivalry has long been the main geopolitical obstacle to a lasting climate mitigation agreement (Eckersley 2007). In 2001, the United States declined to participate in the Kyoto Protocol on the grounds that it did not bind developing nations, particularly China (Sanger 2001). In 2017, U.S. President Donald Trump announced that the United States would withdraw from the Paris Agreement on the grounds that “China will be able to increase these emissions by a staggering number of years—thirteen. They can do whatever they want for thirteen years” (Buckley 2017). Meanwhile, the United States and China’s combined share of global emissions has steadily grown. In 2018, the last year for

which there is reported data at the time of writing, China represented 28.5% of global greenhouse gas emissions (China Power 2021). Together, the two countries represent over 40% of global emissions. China has pledged to reduce emissions to net zero by 2060, but many American analysts note that China has not published detailed and credible plans to meet this target (Economy 2021). Others have noted that there is no reliable system to account for the carbon footprint of China's commercial activities in other countries and in international waters, which account for a large share of the total (Erickson and Collins 2021a). These factors explain why the geopolitics of climate mitigation have garnered intense scholarly attention: the U.S.–China geopolitical rivalry is clearly an important roadblock to a multilateral emissions deal, and is therefore in a sense a core driver of climate change itself (Erickson and Collins 2021b, National Intelligence Council 2021).

By contrast, the literature on the geopolitics of adaptation has paid hardly any attention to geopolitics—especially, curiously, the U.S.–China competition. Of the studies on climate migration (Nawrotzki, et al 2015), food security (Schmidhuber and Tubiello 2007; Myers et al. 2017; Chakraborty and Newton 2011), water security (Eekhout, et al. 2018; Nazemi and Madani 2018), climate change and conflict (Adams et al., 2018; Barnett and Adger 2007; Gleditsch and Petter 2012), competition for mineral resources (O'Sullivan, Overland, and Sandalow 2017; Overland 2019), financing for climate resilience (World Bank 2019); and geoengineering (Versen, Mnatsakanyan, and Urpelainen 2021), there is almost no discussion of the U.S.–China dynamic. Most of the empirical studies in this category focus on single categories of climate adaptation, refraining from drawing sweeping conclusions or making specific predictions about the future. This is partly because of the attribution problem and the challenge of controlling for confounding variables. It is not straightforward to prove that a

given war, wave of migration, or natural disaster was caused by climate change, or would not have happened but for climate change. Most of these studies have not connected these analyses to the U.S.-China geopolitical rivalry because they lack the evidence to do so without speculating. The absence of a separate literature about the link between great power competition and climate adaptation does not imply that no such link exists.

The literature on the geopolitics of renewable energy and resource competition has a clearer link to U.S.-China rivalry (Vakulchuk, Øverland, and Scholten 2020). The prevailing view in this literature is that states that dominate supply of these minerals will gain geopolitical advantage as demand for them increases. Similarly, states that depend on imports will become geopolitically vulnerable, just as states that depend on imported fossil fuels today are vulnerable to extortion and blockade (Habib, Hamelin, and Wenzel 2016). China dominates global supply chains of most important industrial minerals and manipulates the market for rare earth elements (REE) to maintain market share (Kalantzakos 2017). As Chapter 7 argues, Greenland is a useful case study of this phenomenon. All sides recognize that if Greenland's REE resources are ever developed, it could greatly weaken China's control over global REE supply, with important geopolitical consequences. However, renewables and critical minerals are only one piece of a much broader geopolitics of climate adaptation, and the literature fails to integrate this analysis into a holistic whole.

2.3 U.S.-China geopolitical and geoeconomic competition

Against the backdrop of a highly globalized economy, the U.S.-China rivalry encompasses interconnected security and economic dimensions. There is a broad consensus in both Chinese (Pu 2016) and Western (Li 2020) scholarship that China uses geoeconomic

tools to advance geopolitical objectives (Blackwill and Harris 2016), though there is an active debate about how effectively it does so (Ye 2021). China's most important geoeconomic instrument is Belt and Road Initiative (BRI). Because Greenland is not a sovereign state, is not one of the 150-odd countries formally affiliated with the BRI. However, evidence presented in Chapter 4 suggests that China has approached it like a high-priority BRI country, with multiple Chinese analysts explicitly admitting as much. Greenland also came close to falling into a Chinese *debt trap*, a controversial subject in the BRI literature. This section reviews the empirical literature on the BRI relevant to the Greenland case and explains why Greenland might offer clues about the broader nature of the initiative.

Most work on the BRI focuses on megaprojects (Council on Foreign Relations 2021). Megaprojects are typically related to heavy infrastructure such as ports, airports, special economic zones, mines, highway systems, and power plants. The term is used loosely, without any specific price cut-off, typically to describe infrastructure ventures so large that they require a long-term strategic buy-in from the recipient country. The cost of megaprojects frequently exceeds 1% of a recipient country's GDP, and sometimes exceeds 10%. Greenland is a good example of this, as the Kalaallit Airports deal required external debt or equity financing worth up to 20% of Greenland's GDP, with highly questionable prospects of timely repayment. As Chapter 7 argues, Greenlandic elites and Chinese banks discussed the prospect of China providing most of this financing. This reveals both a compelling example of China exploring potential use of the debt trap to gain access and influence in a strategic location, and a qualitative explanation for why a host country might be willing to run the risk.

The Trump and Biden administrations treated the BRI as a strategic threat to U.S. interests, claiming that Chinese enterprises and banks work systematically with the

government to accomplish China's geopolitical objectives, including pulling small states into debt traps. In 2018, U.S. Vice President Mike Pence accused China of following a policy to engulf small states and coerce them into *debt traps* (Parker and Chefitz 2018; Pence 2018). U.S. officials have intervened directly to persuade or pressure officials in host countries to reject Chinese investments, arguing that China is a predatory lender that seeks to erode host countries' sovereignty (Brautigam 2019). Beyond being an example of a potential debt trap, Greenland provides a notable example of successful U.S. intervention to block a potentially significant Chinese dual-use project. In this respect, this dissertation adds to the large and growing body of country-level BRI case studies that consider small state agency.

Most scholarship about the BRI has pushed back against this claim, presenting it as a more fragmented enterprise (Freymann 2021, Reilly 2021). Rather than a carefully orchestrated master plan, the new consensus is that the BRI is actually a rather haphazard affair, in which individual companies or institutions within China are mobilized to pursue projects overseas but receive little guidance or direction. There are several "varieties of Chinese capital," and loans associated with state policy banks are often associated with higher-level political oversight from Beijing (Rithmire 2019). Nevertheless, the recent literature has broadly supported a healthy degree of skepticism about China's ability to coordinate across non-state institutions to pursue grand strategic goals using geoeconomic means. The Greenland case is significant because, as described in detail in Chapter 7, it offers a striking counterexample in which a range of Chinese institutions seem to follow a consistent playbook.

Does the U.S.-China geoeconomic competition have distinctive features in small states that are particularly exposed to climate change, and could it be the case that Beijing

pursues more carefully coordinated geoeconomics strategies in such places? Little has been written about these questions, despite their obvious relevance and importance to the BRI and climate security more generally. Over a multi-decade horizon, the United States and China will increasingly be competing for access and influence in small countries that lack the capacity to adapt to climate change without outside help. Climate impacts could intensify stress on these states' public finances and weaken their ability to repay Chinese loans. Furthermore, even outside the Arctic, the United States and China may be competing geopolitically in zones where both sides know the geography is not fixed or permanent. The trajectory of these geographic changes depends largely on the pathway of future climate change, which in turn depends on U.S.-China geopolitical competition. How will climate change affect the superpowers' investment and diplomatic strategies? How will climate change affect recipient countries' responses?

2.4 Small states and sub-national island jurisdictions confront climate change

A separate theoretical and empirical literature approaches the questions discussed in the previous section from the perspective of small states. The literature in comparative politics and IR on the behavior of small states in alliances and regional systems, and their relationship to great powers, is particularly rich. However, this debate too draws few if any direct links to climate adaptation. This is a major gap. To a climate-exposed small polity such as Greenland evaluating the long-term future, the U.S.-China geopolitical competition and climate change are two profoundly important, exogenous, and ambiguous trends. The two cannot be separated from one another. The question is how exactly they are related, and how

a small state should go about making a net assessment of the situation and taking action to protect its interests.

Scholars became interested in small states in the 1950s and 1960s, after the first wave of postwar decolonization introduced many new states to the global system. States are typically classified as small if they have small populations (usually no more than a few million), small territory, and negligible resources to support national defense. During the Cold War, the terms *small states* and *weak states* were often used interchangeably to refer to states with insufficient resources to change the behavior of their larger neighbors (Vital 1967; Vital 1971). Small states face a “Lilliputians’ dilemma”: that the struggle for survival requires protection from a larger state, which can expose the small state to influence and coercion that erode its autonomy (Keohane 1969). In short, in return for protection, small states often have to sacrifice autonomy and become rule-takers.

When small states enter alliances with larger states and secure membership in international institutions, they trade increments of autonomy for other benefits. In the case of European integration, small states have long exercised disproportionate agency relative to their population, territory, or resources (Handel 1981; Katzenstein 1985 and 1997; Griffiths and Pharo 1995). Small states have a vital interest in preserving multilateral institutions and benign regional orders, since they are particularly vulnerable to aggression or coercion from stronger neighbors. Small states therefore try to legitimize and shore up multilateral institutions and norms that provide *shelter* while maintaining autonomy. Only when these measures fail do small states tend to seek shelter directly from larger patron states, usually in exchange for greater concessions of autonomy (Thorhallsson 2018).

Small states can punch above their weight when certain features and conditions are met. Michael Handel, for example, has shown that ethnically homogenous states tend to achieve more desirable outcomes, perhaps because their domestic politics tend to be more harmonious (Handel 2016). Peter Katzenstein has shown that small states can benefit disproportionately from membership in multilateral institutions or regional orders by free riding off costs borne by friendly larger states. These studies established that domestic political structure partially determines whether small states can bargain toward successful outcomes. Notably, however, both Katzenstein and Handel focus on Western Europe: a backdrop of geopolitical stability during a period of regional integration and economic growth. These models may not apply neatly to other contexts where geopolitics are uncertain and security for small states is scarce.

Other scholars consider a type of *potential* small state: the sub-national island jurisdiction (SNIJ). The decolonization wave following World War II left dozens of European-controlled SNIJs in the Arctic, Caribbean, Pacific, Mediterranean, and Indian Ocean. Scholars have paid particular attention to two features of SNIJs: the success or failure of their independence movements, and the alternative models of political and economic development available under dependence and independence.

The main interest of the recent literature on SNIJs is why so many of their independence movements have stalled. Since the end of the Cold War, only Palau (1994) and East Timor (2002) have become independent, while many other SNIJs have chosen by ballot to *reject* independence, or, through inaction, allowed the possibility to slip away (Baldacchino 2010). In this context, Greenland is an outlier of interest, since it is one of the

few SNIJs that remains extremely motivated to achieving independence as quickly as possible.

For most SNIJs, there are many reasons to remain attached to the metropole. Comparative longitudinal studies have found that SNIJs that stay dependent enjoy better economic outcomes than those that become independent (McElroy and Parry 2012). A metropolitan patron state provides not only predictable, tangible rewards, like cash transfers and social insurance, but also intangible benefits like insurance against unknown risks: access to military protection if regional security becomes scarce, or access to resources in the event of natural disasters, financial crises, and other black swan events (Aldrich and Connell 1988). This may be a useful framework for thinking about SNIJ behavior in the context of intensifying exogenous threats. It would suggest that, as climate change and the U.S.–China rivalry intensify, SNIJs would become even *less* likely to seek independence than before. The fact that Greenland goes against this trend is notable and interesting.

SNIJs like Greenland that are dissatisfied with their situation have various options. One option is to achieve sovereignty and then promptly enter a compact of free association (COFA) with a patron state. In a COFA, a sovereign small state enters a voluntary, time-bounded agreement with a larger state, conceding complete and exclusive authority and responsibility for security matters in exchange for economic assistance (Lutz 1986). The United States has active COFA arrangements with three states: the Federated States of Micronesia (FSM) and the Republic of the Marshall Islands (since 1986), and Palau (since 1994).⁶ The United States derives significant strategic benefit from these arrangements. The

⁶ All three nations were previously part of a Trust Territory administered by the United States. Their citizens may travel and work freely in the United States and serve in the U.S. military. The fourth former member of the Trust Territory, the Commonwealth of the Mariana Islands, has elected to remain an unincorporated territory of the United States rather than reaching for full sovereignty.

FSM, located south of Japan and north of Papua New Guinea, form part of the *second island chain* in the Western Pacific and is important to the U.S. force posture in the defense of Taiwan (Yoshihara 2012). The U.S. Navy has also hosted a naval base on Kwajalein Atoll in the Marshall Islands since World War II and uses it for missile testing, global command-and-control, and other essential operations (US Army Historical Office 2014). Yet the partner states also enjoy significant benefits, including many of the perks of U.S. citizenship.

For an SNIJ that seeks autonomy as well as formal independence, there are three broad models for economic development: aid and remittances (Bertram and Watters 1985), tourism (McElroy 2006), and financial services and logistics (Baldacchino and Milne 2000, Baldacchino 2006). Most SNIJs that go on to become successful independent states, such as Singapore and Malta, incorporate some version of the third strategy. Yet many SNIJs have profited from the services and logistics economic model while retaining the benefits of dependency, such as the Cayman Islands and British Virgin Islands (Oberst and McElroy 2007). These three broad development strategies can be combined. Indeed, most economically successful independent microstates have both a robust tourism and services economy and some form of natural resource export (Armstrong and Kervenoael 1998).

These findings offer both good and bad news for Greenland's independence movement. On the one hand, Greenland has few sun-drenched beaches to lure tourists; it might struggle economically without financial support from Denmark; and it lacks the physical infrastructure and human capital to become a viable services hub. On the other hand, if China is willing to finance this investment to turn Greenland into a major exporter of raw materials and a transshipment hub for the burgeoning Northern Sea Route, Greenland could potentially bootstrap all three economic models at once.

Greenland also has another potential economic development strategy: seeking rents from hosting foreign military forces, as Djibouti does (Styan 2016). The literature on small states and SNIJs does not elaborate in much theoretical depth on this last potential strategy, but it is a plausible long-term option and deserves consideration. Greenland currently enjoys few direct economic benefits from the U.S. air base at Thule and it has tried in the past to renegotiate this arrangement, discussed in Chapter 6. All of this—not to mention the territory’s vast geographic size—suggest that Greenland could plausibly be an outlier, which would complicate my project to use Greenland as a theory-building case. I will consider Greenland’s idiosyncratic characteristics in more detail below in Chapter 8.

Finally, scholars have paid substantial attention to the potentially existential implications of sea level rise for small island states (Pernetta 1992, Ker-Lindsay 2016). Most vulnerable of all are the five “atoll countries” that could be entirely inundated if sea levels rise even by a few meters, including four small states: Kiribati, the Maldives, the Marshall Islands, and Tuvalu (Barnett and Adger 2003). Much has been written about the discourses of potential climate futures in these polities (Campbell and Barnett 2010). There have been some discussions of small state bargaining behavior in the context of climate mitigation negotiations (Weiler 2012). However, hardly any literature has engaged in depth with small states’ strategies using geopolitical rather than diplomatic tools to engage the superpowers to help with climate adaptation, or to respond to the risks of that future climate change could intensify superpower rivalry in their neighborhood. The Greenland case study fills this gap. It also suggests, somewhat counterintuitively, that exposure to dramatic climate impacts can actually create geopolitical opportunities to bargain with the superpowers, rather than simply downside risks.

2.5 Greenlandic foreign policy

The literature on Greenland's foreign policy acknowledges each of these overarching themes but does not integrate them systematically. Most of the English-language literature on Greenland's geopolitical strategies can be found in a single edited volume (Kristensen and Rahbek-Clemmensen 2017). These studies include a map of the key stakeholders in Nuuk, based on extensive elite interviews, and a review of the mining debate. Marc Jacobsen has also written eloquently about how Greenlandic politicians use rhetoric of independence as a tool to threaten Denmark and elicit symbolic, legal, and financial concessions (Jacobsen 2019). Jacobsen has elaborated on this research in both English and Danish (Jacobsen 2020 and 2021). Three studies have applied a neorealist bargaining framework to the four-sided relationship between Greenland, the United States, Denmark, and China (Kristensen and Rahbek-Clemmensen 2017; Henriksen and Rahbek-Clemmensen 2017; Sørensen 2018).

My dissertation builds on and updates these studies. Much has changed since the foundational literature on Greenlandic politics was published. First, the United States, via Denmark, successfully pressured the Greenlandic government into rejecting China's bid to finance and construct a new national airport system. Next, President Donald Trump offered to buy Greenland outright, the most explicit articulation of American geopolitical interest in the territory since 1946, provoking Denmark and causing a big shift in Greenlandic domestic politics. Finally, in April 2021, Greenlandic voters elected a new government that promised to scrap the Kvanefjeld rare earths mine, in which China was a co-investor, and adopted a new bargaining strategy focused on the United States. Chapters 6 and 7 bring Henriksen and Rahbek-Clemmensen's and Sørensen's work up to date, drawing on new primary sources and

incorporating the concept of climate geopolitics and more detail on the U.S. and Chinese perspectives.

Danish scholars are particularly interested in Greenland's bargaining strategies. Henriksen and Rahbek-Clemmensen elaborate on this in some theoretical detail. My argument about Greenland's negotiating strategy draws on their insights. The authors use elite interviews and official documents to argue persuasively that both the Greenlandic and Danish governments understand that Arctic climate change is making Greenland more geopolitically important to Washington and the NATO alliance. They build on previous literature in Danish that has described similar Greenlandic behavior in the past (Lidegaard 1996; Ringsmose 2008; Henriksen and Ringsmose 2011). However, before the 2000s, few Danish observers saw a connection between future climate change and Greenland's geopolitical value.

Most other scholarly studies of Greenlandic politics focus on mining (Gunter 2015; Ackrén 2016; Tiainen 2016; Kadenic 2017; Pelaudeix, Basse, and Loukacheva 2017; Rasmussen and Gjertsen 2018; Tolvanen et al. 2018). Nearly all take legal, anthropological, or critical discourse approaches. They reveal that many indigenous communities in Greenland fear the social and environmental implications of development. Other studies consider the international and geopolitical implications of mining, but with a constructivist theoretical bent that takes discourse as a primary tool for explaining foreign policy (Nuttall 2013). Many of these sources offer invaluable empirical detail about mining politics in Greenland, but shed little light on the broader geopolitical context and implications of U.S.-China competition in Greenland. By applying classical geopolitical analysis and situating

Greenland in regional and global perspective, this dissertation therefore makes an original contribution to the specific literature on Greenlandic area studies.

2.6 Conclusion

This chapter has situated my research question and analytic approach to the Greenland case at the intersection of several bodies of scholarly and policy literature. My analytic approach can contribute to scholarly debates on climate security, U.S.-China geoeconomic competition, and small states and SNIJs. Climate geopolitics, which is shorthand for climate *adaptation* geopolitics, offers a framework for combining the disparate and highly specialized sub-literatures on climate security, including resource scarcity, conflict, and migration, into a single net assessment. It offers a new way of thinking about the long-term prospects of U.S.-China geopolitical and geoeconomic rivalry because many of the states and regions where China is most interested in establishing strategic strong points are also those most exposed to disruptive climate impacts. Finally, it posits new reasons that small states may choose to engage with the United States and China's geopolitical and geoeconomic strategies: to gain shelter, financial support, or infrastructure capacity to adapt effectively to climate change.

Finally, the chapter considered the case of Greenland. As one of the few SNIJs worldwide that continues to push actively toward full independence, Greenland presents a puzzle. Could it be an exception to the rule that small states need more shelter and lose autonomy as security becomes scarce? Or could Greenland, by playing the United States and China off each other, not only bargain its way to independence but become a geopolitical kingmaker in a changing Arctic? As a case study, Greenland sits at the intersection of the

various regional and global dynamics discussed in this chapter. Yet it is also a complex place with its own history, nationalistic ideology, and fraught relationship with its former colonial ruler, Denmark. Any study that seeks to use Greenland for the purpose of theory-building must engage with these particularities. The next chapter discusses why the discipline of area studies is well-suited to the challenge.

CHAPTER 3

Methods

3.1 Introduction

Area studies is an interdisciplinary, wide-ranging, and methodologically contentious field of study. Any doctoral dissertation in the field should therefore locate itself in this contested space and briefly explain its choice of disciplinary alignment. This chapter argues that area studies is the best disciplinary framework for developing a theory of climate geopolitics. Most research projects within area studies position themselves adjacent to a single social science discipline, drawing on its methods and engaging with its theoretical debates. For this dissertation, that field is international relations (IR), particularly geopolitics. However, while this dissertation engages heavily with the IR literature, it is not a work of IR. I use multiple methods, engage more in theory-building than in theory-testing, and root my analysis in a deep, multilingual analysis of a single case study.

The chapter is structured as follows. The first section briefly explains why area studies is the best disciplinary framework in which to build a theory of climate geopolitics. Next, it discusses some of the notable features of Greenland case. The later sections describe how I sampled, collected, and processed my primary source data. I conclude by discussing how I used elite interviews to test and expand on the written record, and explaining how I dealt with logistical, epistemological, and ethical challenges.

3.2 Area studies and case studies in climate geopolitics

This dissertation follows the spirit of area studies as it was first understood when it came into existence in the late 1940s: as a policy-oriented, interdisciplinary, and heavily language-focused domain of social science. In the early Cold War, the U.S. and British governments established and funded area studies departments at dozens of universities. Their goal was to train multidisciplinary experts who spoke non-Western languages and could advise governments on political developments in their countries and regions of expertise. Many graduates of area studies programs went directly into policy careers. Talcott Parsons, sociologist who helped to launch the creation of some of the first university area studies programs during his time at the Social Science Research Council, analogized area studies to medicine. Medicine is not a single science, Parsons argued, but a realm of practice that uses deep contextual expertise to formulate practical, future-oriented judgments and predictions. He likened area studies to a clinic for synthesizing and applying social scientific knowledge related to international affairs.

Area studies at its best is a process of cross-national or cross-cultural “translation” (Tansman 2004). Its goal is to seek generalizations that are built on deep contextual and historical analysis of a single place but can apply across countries and regions (Katzenstein 2001). In other words, area studies typically focuses on creating theory and hypothesizing how to apply it, rather than testing theories in large-n studies. Area studies is also aware of theory’s potential to overgeneralize, and it prefers to dwell on empirical nuances and local particularities even if they make it harder to generalize or extrapolate a theory. My theory of climate geopolitics therefore aligns with area studies’ strengths, since it is about a global phenomenon that manifests in highly context-specific ways.

This project overlaps in some ways with the IR literature, but there are important differences. Some IR theorists such as Stephen Walt have written about the importance of “diagnosis”: the policymaker’s need to understand how what motivates other states, how they make assessments and decisions, and how they would be likely to respond to certain actions or events. For the practitioner, Walt argues, “diagnosis does not require a sophisticated theory . . . Even if we cannot fully explain why certain international events occur, we may still be able to fashion a remedy once we have identified the problem” (Walt 2005; Jentleson 2000). However, most IR scholarship is not focused on this task. It is more interested in testing theories and studying general trends than in informing policymakers about how to make diagnoses and fashion remedies in case-specific situations. For these reasons, recent scholarship in IR and comparative politics has tended to prefer larger-n studies to reduce the risk of selection bias.

Case study methods do have a well-established role in theory-building and theory-testing (King, Keohane, and Verba 1994). Bent Flyvbjerg contends that well-constructed case studies form the basis of any discipline and sub-field (Flyvbjerg 2006). The disadvantage of large-n studies is that the process of coding cases and representing them as data points for the purpose of quantitative analysis often requires interpretive choices that introduce their own potential for bias. The advantage of small-n studies is that, by using a higher level of magnification, they can treat a single case study as microcosm containing many other data points that need to be connected in an organized way using theory (Collier, Mahoney, and Seawright 2004). Detailed case studies can present dozens or hundreds of within-case anomalies that need to be explained, including interactions between agents, path

dependencies, and interactions between actors who withhold private information or incentives to bluff or deceive each other (Bennett and Elman 2007).

Case studies are particularly useful under the following three conditions (Gerring 2004):

1. When the object of study is a causal *mechanism* rather than a causal *result*;
2. When the approach to the hypothesis is “exploratory” rather than “confirmatory”;
3. When the dimensions of difference between the case in question and others in the population are well understood.

My research question and approach easily meet the first two of Gerring’s criteria. The third criterion requires slightly more discussion.

Greenland has at least six notable features that make it well-suited for building a broader theory of climate geopolitics. First, the structure of Greenland’s polity and institutions limits the number of potential confounding variables. Greenland is a highly homogenous island nation. Eighty-eight percent of the population of fifty-seven thousand identify as ethnic Greenlandic Inuit. There is little immigration and the vast majority of that comes from Denmark. Second, Greenland had essentially no foreign policy before 2009. It is among the most geographically isolated polities in the world and has no threatening regional rivals. Apart from a few minor clashes in World War II in unoccupied regions of eastern Greenland, there has never been a war on Greenlandic soil. Third, during the period studied, Greenland’s foreign policy diverged from Denmark’s in only three key bilateral relationships: United States, China, and the EU. This reduces the risk of omitted variable bias. Fourth, as Chapters 1 and 2 have discussed at length, atmospheric and oceanic temperatures in the Arctic are rising faster than the global average (Jansen et al. 2020). Thus, if climate geopolitics is indeed an emergent phenomenon, we would expect it to become visible in Greenland before it does so in other, less climate-exposed countries. Fifth,

Greenland is an open society and a safe place to do field research. Public officials socialize regularly in their communities. Civic institutions are strong. Greenland is the only polity on earth with a perfect score in the World Bank's "political stability / no violence" index (World Bank 2018). As a result, researchers can gain exceptionally broad access to official documents and elite practitioners, without the distinctive risks and ethical challenges that accompany interviews in many other small states where China has proposed large investments. Sixth, Greenland provides multiple well-documented examples of the United States securitizing and pushing back against Chinese infrastructure investments on geopolitical grounds, one of the central components of the climate geopolitics argument (Rolland 2019). This allows for extensive consideration of within-case analysis, as well as cross-case analysis. The Greenland case also has some idiosyncratic characteristics that complicate the task of extrapolating from it to other regions. Chapter 8 discusses these characteristics and explains how I work around them.

Within Greenland, selecting the three project-level sub-cases for Chapter 7 was a relatively straightforward matter. In my review of the Danish and Greenlandic sources, I found only four well-documented cases of Chinese corporate entities seeking financial acquisitions or construction deals in Greenland in the period studied. The only one of the four that this dissertation does not discuss individually is the Isua iron mine, which became the first Chinese-controlled commercial project in the Arctic when the Chinese company General Nice Group acquired it in 2014. Because General Nice was also the main Chinese actor in the Grønnedal case, I fold the discussion of Isua into the section on Grønnedal.

3.2 Stakeholder mapping

Who matters—who has agency—in the making of a country’s foreign policy? My methodology requires making assumptions about how to define relevant actors in a competitive environment, as well as how to characterize their motivations and decision functions. The “stakeholder” concept is a common analytic tool in theoretical social science, from public policy to firm behavior (Brenner and Cochran 1991). Yet there is no single accepted methodology for identifying stakeholders, demarcating the limits of their membership, or classifying them by type.

I define a “stakeholder” as a group of individuals, communities, organizations, or countries that shares common interests and preferences in a given policy debate, and which collectively seek to maximize those interests. In other words, a given population can often be carved up into a substantial number of overlapping and cross-cutting stakeholder arrangements, depending on the issue at hand.

This dissertation makes several assumptions about how stakeholders behave. First, unless I find empirical evidence suggesting otherwise, or unless the optimal “self-interested” outcome is extremely vague and contested, I assume a rational choice framework: that stakeholder groups seek to maximize perceived outcome value for their participants and members. Second, stakeholders are never passive observers. By definition, their interests and activities meaningfully affect *and* are affected by the policy debate (Morgan and Taschereau, 1996). I therefore interpret inactivity or silence as active, reasoned choices. Third, stakeholders cannot be considered in isolation from one another: achieving a desired outcome requires outcompeting other stakeholders with adverse interests, stakeholders are “Bayesian actors”—constantly observing one another and updating their beliefs based on new information (Gintis 2014). In a longitudinal study, stakeholders can change composition,

realign, merge, and split over time as some actors and sub-groups located at the margins switch sides. Fourth, stakeholders sometimes have incentives to misrepresent their interests and motivations—not to mention those of others. They might do this to sustain internal cohesion or to gain advantage over other stakeholders. This is perhaps the trickiest aspect of stakeholder mapping, but the assumption of rational choice makes it a soluble problem. All we need to do is ask members of each stakeholder group to explain their own actions and the actions of their competitors—and to respond to each other’s accounts. We can then select the explanation—who is being candid, who is being deceptive, for example—that makes most sense given each stakeholder’s incentives. Fifth, I assume that national and international political environments are competitive, and that decisions can usually be taken even without full consensus among the stakeholders.

As an empirical matter, mapping a stakeholder framework onto the real world is messy, and requires many subtle empirical and epistemological judgments. The procedure of stakeholder mapping requires assumptions about what forms power can take in social life, whose preferences matter most, and how in-groups and out-groups are defined (Aligica 2006). I largely sidestep these questions by identifying elites who were close to the action in the case studies and asking them some version of the question: “whose preferences do you think mattered in the making of this decision?”

Allowing public figures to defend their own preferences and narrate their own role in events is an undoubtedly elitist methodology. What about subaltern interests, local community organizations, or distributed bottom-up pressure? What about discursive forces that shape elites’ attitudes or behaviors in ways that they themselves might not recognize? I acknowledge these critiques. My response is an appeal to practicality, given the word limit of

this dissertation. Generally, it is reasonable to assume that interest groups with no significant direct influence on elites tend to have relatively little influence in the making of foreign policy. Insofar as these groups or social forces *do* succeed in changing the direction of policy, they usually do so indirectly. I assume that an elite-level analysis will identify the basic causal mechanism.

Given the scope of this project, it is necessary to use additional assumptions and sampling criteria to distil the range of opinions and preferences into a manageable quantity. When interview subjects disagree with the way I bucketed the stakeholder groups, I present their critiques and explain why I chose not to adopt them. Most elites I interviewed agreed on my framework for bucketing the various stakeholder groups. This provided some reason for confidence in the approach.

I identify three groups of stakeholders relevant to shaping the outcome of the Greenland cases. These are China, the United States, and Danish Realm, in which Greenland is the most important and relevant actor. Each receives its own chapter. In the United States, there is no stark partisan divide on China policy or Arctic security policy, but all conversations about climate change are deeply partisan. I therefore identify two stakeholder groups, the Democratic and Republican parties, and assess that there are no significant intra-party disagreements. In China, I seek to establish whether there are competing interest groups or schools of thought on climate geopolitics and the optimal Chinese policy toward Greenland. While I find lively disagreement between the Chinese sources on many other issues of Arctic geopolitics, I find no evidence of disagreement on the Greenland issue. I therefore treat the Chinese government and its state-owned enterprises as a single atomistic actor in the project-level case studies in Chapter 7. In Denmark, I disregard the half-dozen or

so small parties with fewer than ten seats in the Folketing (parliament) and divide the party system into three main camps with respect to views on Greenland and China. By far the most important camp is the centrist coalition, which includes the two largest political parties and a large community of public servants, intelligence and military officers, and news media. In Greenland, policymaking is more personalized and views on China, climate change, and independence do not align neatly with the party system. For ease of comprehension, Chapter 6 sometimes divides the Greenlandic political debate into two loose partisan camps, but I acknowledge that the full picture is more complex.

3.3 Collecting written sources

For the Greenland and Denmark chapters, the most important periodical source is *Sermitsiaq*, Greenland's Danish-language paper of record. I conducted a comprehensive review of all *Sermitsiaq* articles mentioning China, climate change, and the relevant infrastructure projects between 2009 and July 2021, using the website's digital archive. Because of Greenland's small population, most political parties and factions do not have dedicated news media outlets. Most daily communication with voters takes place in Greenlandic, via Facebook, but notable statements are typically translated into Danish and written up in *Sermitsiaq*.

For the Denmark chapter, I reviewed the country's three largest Danish-language newspapers by circulation: *Dagbladet Politiken*, *Jyllands-Posten*, and *Berlingske*.⁷ The first is generally considered center-left in orientation; the second, center-right; and the third,

⁷ From *Sermitsiaq*, I identified 117 relevant articles through keyword searches. For *Politiken*, I selected 32 articles with substantially original information for the corpus. For *Berlingske*, keyword searches yielded 32 articles; for *Jyllands-Posten*, 23.

conservative. For these, I searched the websites' digital archives for the period 2009–2021 for all articles mentioning China and Denmark–Greenland relations. Much of this material replicated stories covered in more detail in *Sermitsiaq*, so I disregarded articles unless their headlines suggested that they might contain original and pertinent data points.

I also sought to identify and consult all relevant government publications in English and Danish. The most important of these were the Greenlandic government's voluminous annual "Foreign Policy Statements" [*Udenrigspolitisk Redegørelse*] and "Political-Economic Reports" [*Politisk-Økonomisk Beretning* between 2010 and 2020, written in Danish. Finally, I consulted all relevant Danish and Greenlandic primary source documents published by governments and civil society organizations cited in the peer-reviewed secondary scholarship on Greenlandic politics and foreign policy.⁸ These publications' references led me, in turn, to other miscellaneous, official publications, such as press releases and minutes of debates in the Folketing, which I found by searching for key terms on government websites.⁹

For the discussions of China in Chapters 4, 7, and 8, I assembled a corpus of the fifty-three most relevant Chinese-language commentaries, scholarly studies, and unofficial policy papers published between 2009 and 2021. I began by searching the Chinese academic database CNKI for relevant keywords, including climate change and global warming (气候变化 and 全球变暖), climate adaptation (气候变化适应) geopolitics (地缘政治学),

⁸ For example: Foreign Ministry of Denmark, "Arktis i en brydningstid" [Arctic in a Time of Change], May 2008; Government of Greenland, "The Greenland Self-Government Arrangement," 2009; Committee for Greenlandic Mineral Resources to the Benefit of Society, "To the Benefit of Greenland," January 2014. I also consulted miscellaneous other official publications, such as press releases, found by searching for key terms on government websites.

⁹ These included, for example, the Danish Foreign Ministry's "Arktis i en brydningstid" [Arctic in a Time of Change], May 2008; Government of Greenland, "The Greenland Self-Government Arrangement," 2009; and the Committee for Greenlandic Mineral Resources to the Benefit of Society, "To the Benefit of Greenland," January 2014.

Greenland (格陵兰), Arctic governance (北极治理), “Northern Sea Route” (北海航线), Ice Silk Road (冰上是绸之路), “small states” (小国) in the Arctic (北极), Denmark (丹麦), Faroe Islands (法罗群岛), Iceland (冰岛), Grønnedal/Kangilinnguit (康吉林奎特), Kvanefjeld (港口项目), Kalallit (卡拉利). For authors of particular interest—particularly Guo Peiqing, Xiao Yang, and Li Zhenfu—I conducted additional background research to track down additional biographical information and publications of interest. I also reviewed all citations for each relevant article to identify potentially valuable sources not listed on CNKI. All articles of potential relevance to the project were included.¹⁰ I reviewed all germane articles, though I paid particular attention to the most credentialed authors and those affiliated with state institutions.

For the discussion of the United States, I drew mainly on three categories of documentary primary sources. The first category is comprised of framework documents published by the executive branch: the three National Security Strategies (2010, 2015, and 2017) and the Directive on the Arctic (2009) and National Strategy for the Arctic (2013); and the Department of Defense’s Arctic Strategies (2013, 2016, and 2019). The second category is expert testimony and committee and subcommittee transcripts from the Senate and House Armed Service Committees’ hearings and reports from 2010 to 2020. In total, I reviewed 104 House documents and 146 from the Senate. Third, I searched the State Department and Defense Department websites for keyword combinations relating to Greenland, China in the Arctic, and climate change, to assemble a full list of relevant statements on the topic by the Secretaries of State and Defense and their deputies. The most valuable of these were

¹⁰ Thanks to Ruofei Shen for his invaluable help and advice in screening the Chinese sources.

speeches from Secretary of State Mike Pompeo, who served from 2018 to early 2021 and spoke frankly and frequently about climate geopolitics. As with Greenland and Denmark, there are also a variety of miscellaneous U.S. government documents and reports that my research uncovered, including in the footnotes and references of other publications (United States Chief of Naval Operations 2014; Rosen and Thuringer 2017; United States Department of Defense 2018; United States Government Accountability Office 2018; United States Department of Defense 2019).¹¹

In searching Danish databases, I used a consistent set of following keywords, individually and in combination. These included:

- *Uafhængighed/uafhængigt/uafhængig* (independence/independent)
- *Selvstyrets/selvstændig/selvstændighed* (self-government/self-governing),
- *Sjældne jordarter/sjælden jordelement/uran/guld/nickel* (rare earths/rare earth element/uranium/gold/nickel),
- *Klima forandring/klimaforandringer/global opvarmning/klimaændringerne* (climate change/global warming),
- *Havn/lufthavn/lufthavnsstruktur/ havneinvesteringer* (port/airport)
- *Mmine/minedrift/minen* (mine/mining)
- *Are/risiko/risici* (danger/risk)
- *Hårde mineraler* (minerals)
- *Råstofsektoren/råstofindustri/råstofaktiviteter* (raw material sector/raw material industry)
- *Konkurrenter* (competitors), and
- *Trusler* (threat)

The Danish language has many compound words, so searches for keywords included their variations. For example, references to *råstof* (raw materials) yielded references to

¹¹ For example: United States Chief of Naval Operations, “The United States Navy Arctic Roadmap for 2014 to 2030,” February 2014; Mark E. Rosen and Cara B. Thuringer, “Unconstrained Foreign Direct Investment: An Emerging Challenge to Arctic Security,” *Center for Naval Analyses*, November 2017; United States Department of Defense, “Statement of Intent on Defense Investments in Greenland,” September 17, 2018; United States Government Accountability Office, “Arctic Planning,” November 2018; United States Department of Defense, “Report to Congress: Department of Defense Arctic Strategy,” June 2019.

råstofektoren, råstofindustri, råstofaktiviteter (raw material sector, raw material industry, and raw material activities). Finally, in English-language databases from Denmark or Greenland,

I used the following keywords:

- China
- Greenland independence
- Northern Sea Route
- Rare earth
- Climate
- Port
- Airport
- Mine/mineral/raw material,
- Kalalliit
- Grønnedal/Kangilinnguit
- Kvanefjeld/Kuannersuit

The goal was to assemble the broadest possible sample of primary sources in the first round of data collection, and then to pare it down over time by eliminating redundant, irrelevant, and low-quality materials.

For each of the case studies, I began by constructing timelines from the Greenlandic and Danish periodical sources: *Sermitsiaq*, *Politiken*, *Jyllands-Posten*, and *Berlingske*. I then supplemented these timelines with other relevant data points taken from the POs, URs, press releases on the websites of Kalalliit Airports A/S and CCCC, and searches on the Greenlandic government, or Inatsisartut website, *ina.gl*, for the keywords *lufthavn* (airport) and “Kalalliit Airport.” I then searched on Google to elaborate on individuals and points of interest. As I did this, I kept running lists of unexplained questions and hypotheses. In the final step, I tested these hypotheses systematically through interviews.

This written record is limited in several respects. Importantly, because all three case studies are quite recent, most of the detail about project-level negotiations is found in daily

newspaper coverage. These stories are often impressionistic and very short. Often, the original research is done by only one reporter, and other papers follow with nearly identical reports. Because the authors are often journalists rather than scholars, quotes are often taken out of context, selected for punchiness. When speaking to the press, seasoned officials often avoid sharing information or obfuscating their true opinions. Even stakeholders who are not elected officials may have personal or professional reasons to withhold information or make misleading statements. Newspaper reports are therefore most useful as secondary sources for reconstructing the chronological fact-pattern and identifying relevant individuals and organizations. Some indicate where various public officials stood or at least where they claimed to stand—in this respect they are primary sources. From these introductory data, I constructed within-case hypotheses about which stakeholder groups were relevant, what they believed at various junctures, and why their representatives believe they acted the way they did (George and McKeown 1985).

3.4 Linguistic issues

Since I am proficient in Chinese, but not in Danish or Greenlandic, the first stage of research involved extensive use of Danish-to-English machine translation. There is no machine translation tool for Greenlandic currently available. English and Danish are syntactically similar, so Google Translate and the artificial intelligence-based machine translator DeepL render most Danish prose in clear and accurate English. I extracted quotes and data points from this machine translation. Whenever matters of word choice or specific meaning were in any doubt, I double-checked my rendering with a bilingual human translator.

As the study proceeded, it proved necessary to hire two research assistants to provide translation help with Danish and Greenlandic written sources and interviews. These assistants were university graduates highly proficient in English. At the beginning of their involvement, I provided full briefings on the project's goals, methods, and hypotheses so that they could consent freely to participate. All research assistants were compensated at a standard rate appropriate for freelance research: £13 (\$17.50) per hour. I provided them with written consent forms that clarified that they were allowed them to opt-out of any part of the research, for any reason; explicitly stated their right to remain anonymous if they desired; and committed to acknowledging their contributions in the final version of the dissertation and any subsequent derivative works.

3.5 Elite interviews

I applied one main criterion for drawing up an initial list interview subjects: all must have had some primary professional interaction with at least one stakeholder group in the United States, China, Greenland, or Denmark. Most interview subjects were politicians who had commented publicly on negotiations, businesspeople with knowledge of official visits, or bureaucrats in relevant ministries. I treat these as primary sources and cite all claims drawn from them. In addition, I spoke to scholars and journalists who had written about the project-level case studies at the time of their negotiation or implementation. Bearing in mind these individuals' published writing and professional affiliations, I broadly treated these interviews as secondary sources, clarifying matters of fact and stress-testing within-case hypotheses. Among the former group, I interviewed at least one on-the-record interview with at least one subject personally affiliated with each stakeholder group—and in most cases, more than one.

Sampling was therefore deliberately *not* random: its aim was to represent the full range of elite perspectives in the relevant stakeholder groups (Tansey 2007).

I was as systematic as possible in assembling the list of potential interview subjects. First, I assembled a list of all scholars and journalists who had authored original content of reasonable quality on the issues at hand, and all public officials and private individuals quoted in these materials, and made reasonable efforts to contact them by email, LinkedIn, and Facebook. I then expanded the list through snowball sampling, asking each of the interview subjects who agreed to meet with me to suggest additional contacts and, if possible, provide personal introductions. I solicited these referrals toward the end of every interview, asking: “Can you think of anyone with a different perspective on this topic that I should not miss the chance to interview?” I subsequently contacted all the new contacts suggested to me. The resulting sample of interview subjects was not entirely free of selection bias, but I was ultimately able to speak with knowledgeable and well-connected individuals from each of the major stakeholder groups that feature in the case study chapters.

I followed consistent data collection, protection, and consent solicitation procedures in all interviews, both in-person and videoconference, as specified in my research ethics application (CUREC). At the beginning of each interview, I asked orally for consent to make an audio recording and began recording only after obtaining consent. I briefly described to the subject how I planned to use the data and referred them to the digital copy of the participant information form. Participants were asked for permission to preserve any documents and recordings connected for thirty years after the interview date on a password-protected drive. After thirty years, the interviews will be aggregated and donated to the University of Oxford to be made available as an oral history archive for future historians. If

participants requested that part or all of their interview be “on background” or “off the record,” I committed to destroying the associated recordings and all identifying notes no later than September 1, 2022 and to redacting any personally identifying information in the course of transcription.

The interviews were semi-structured, with partially overlapping lists of questions. The bulk of the questions were tailored to the subject’s professional experience as it related to the case and their affiliated stakeholder group. The latter mostly related to how that group perceived the other actors in the negotiations and made collective decisions. I offered all interview subjects the option to briefly comment on my stakeholder map. The second half of most of the interviews I conducted in a more free-form manner, building on each subject’s initial comments and focusing on topics where they appeared to have the most original insights. All interviews closed by asking whether the subjects had additional comments to add, as well as the prompt for snowball introductions. A list of the questions I asked most frequently can be found in Appendix A.

Many of the interview subjects in Greenland and elsewhere were current or potential public figures. Whenever an interview subject mentioned another individual in a critical light, or in a manner which I judged could be politically or reputationally damaging, I attempted to contact the named individual for comment, protecting the identity of the original source if the critical comment was not made on the record. If I received a response, I included the critical comment and the relevant response together in the dissertation text, or not at all. I also anonymized a few quotes that were offered on the record to protect the source, in consultation with my supervisors.

I did not conduct any on-record interviews with Chinese elite sources. The outbreak of COVID-19 during the first year of my DPhil program and the effective closing of China's borders made it logistically impossible to travel there for research. Since Chinese internet traffic is subject to government surveillance, I judged that it would not be worthwhile to try to interview Chinese subjects over videoconference. This was partly a practical decision. The window for free expression in China is closing, and my advisors and I assessed that I was unlikely to solicit on-the-record verbal comments more candid than the published written record. It was also an ethical decision. I could not promise my interview subjects the power of prior review over my dissertation, and quotes deemed to reflect poorly on China's politically sensitive unofficial foreign policy toward the Arctic could potentially put them at risk in the future.

Informally, I tested and sense-checked the arguments presented in the China chapter with Chinese scholarly sources. Over the course of researching this project, I engaged in several enlightening, informal conversations that could not be described as interviews but confirmed important minor points and clarified my research approach and argumentative structure. I made reasonable efforts to secure all digital records of these conversations by holding them in person, or on end-to-end encrypted messaging platforms such as Signal or WhatsApp. Even when Chinese sources—ethnic Chinese living abroad but with family in China, or foreigners currently living in China—expressed willingness to be interviewed on the record, I erred on the side of anonymizing them.

The COVID-19 pandemic introduced a few practical challenges to the interview process. After an initial round of interviews with journalists, scholars, and other individuals who could provide background, I was fully vaccinated and received approval to conduct field

research in Greenland in July 2021 and in Denmark in August 2021. While in the field, I met with subjects in person whenever possible, according to their preferences, but I adhered to the University's best practices and ethics guidelines for personal health safety, as well as local laws relating to quarantines, mask-wearing, outdoor meetings, and social distancing.

In total, I conducted 36 formal interviews, 25 over videoconference and 11 in person. Of these, 32 were on the record and 4 were anonymized. All four anonymous interview subjects were current or former members of parliament in Denmark or Greenland. A list of all on-record interviews, including locations and dates, can be found in Appendix A.

CHAPTER 4

Climate Geopolitics and China's Emerging Arctic Strategy

4.1 Introduction

This chapter argues that China's strategy, tactics, and perceived interests in the Arctic in general, and in Greenland in particular, are based on a concept of climate geopolitics that is widely shared in China's elite academic and policy communities. I show this through a discourse analysis of Chinese official statements on Arctic policy and a corpus of forty-five open-source studies and commentaries by credentialed experts from 2012 to October 2021.

There are a few important caveats to my argument. China's strategic logic evolved over time. There was substantial debate over smaller points and operational techniques, particularly in the first half of the decade, before the national strategy toward the Arctic was formalized. Furthermore, China's official statements about Arctic policy make few references to climate geopolitics. China's guiding document on Arctic policy, the State Council's 2018 White Paper, enumerates China's rights and interests [利益] in the Arctic and includes an extensive and interesting discussion of Arctic climate change (State Council 2018). Other scholars have provided detailed and thoughtful analysis of this document and have found no clear link between climate change and geopolitics (Lim 2018). Chinese Communist Party news media for mass audiences, in both Chinese and foreign languages, are similarly guarded about articulating China's strategic interests in the Arctic. They hew closely to standard talking points in reporting on climate change and usually scrupulously avoid linking climate change to security or geopolitics.

I posit that China's vague and anodyne official statements misrepresent the true assessments and intentions of the policy elite. Within China's academic and policy communities, there is a candid, wide-ranging, and strikingly cynical debate about how climate change might indirectly create geopolitical opportunities that China can exploit. This debate covers issues such as the domestic politics of the major Arctic countries, the balance of power between them, Greenland's strategic assets and pathway to independence, and Chinese geoeconomic strategies and tactics for the region. The recursive relationship between climate change, geography, and geopolitics is a key recurring theme.

I trace this expert debate from 2012, when it began in earnest, until October 2021. (No articles published between 2009 and 2011 met my criteria for inclusion.) I collected them mainly from the Chinese academic database CNKI by searching for relevant keywords.¹² I reviewed all germane articles—several hundred in total—but paid particular attention to the most credentialed authors, authors affiliated with state institutions, and scholars interested specifically in foreign policy and geopolitics. I ultimately selected forty-five articles and commentaries for the corpus, not all of which are quoted here. Most were written by scholars at major universities and think tanks and funded by central government research grants. Most have not been previously cited in English. While the analysts disagree on many smaller

¹² Ruofei Shen helped to assemble the corpus. We searched the Chinese academic database CNKI for combinations of relevant keywords, including “climate change” and “global warming” (气候变化 and 全球变暖), “Arctic governance” (北极治理), “geopolitics” (地球政治), “Northern Sea Route” (北海航线), “Ice Silk Road” (冰上是绸之路), “small states” in the Arctic (小国...北极), “Denmark” (丹麦), “Faroe Islands” (法罗群岛), “Greenland” (格陵兰), and “Iceland” (冰岛). We also reviewed the list of citations for each relevant article in order to identify other relevant sources not listed on CNKI. In total, we identified 26 relevant scholarly studies and unofficial policy papers and 19 op-eds. No scholarly articles published between 2009 and 2011 met the criteria for inclusion. I reviewed all potentially germane articles, paying particular attention to the most credentialed authors and those affiliated with or funded by state institutions.

points, there is a striking consensus about the core concept of climate geopolitics, and what it means for China's Arctic interests and tactics for engaging Greenland.

Three themes of consensus in the open sources are particularly notable. First, there is universal agreement that climate change will create geopolitical and commercial opportunities for China, not just costs and risks. In the Arctic in particular, climate change is portrayed as an overwhelmingly positive trend. It will create both commercial opportunities for China in mining, fishing, and shipping, and strategic opportunities for access and political influence as the regional balance of power adjusts to the new geographic reality of ice retreat.

Second, Chinese analysts are thinking strategically about the prospect of recursive interactions between climate change and geopolitics. They predict that climate change will enable new entrants, such as Japan and South Korea, to operate in the region, altering the balance of power. As the competition for access and resources intensifies, they predict that the region will become more militarized, intensifying the U.S.-Russia rivalry. The scholarly consensus became increasingly Russia-friendly over time but assessed that China's Arctic policy should not rely completely on Russian support. This analysis suggests that China's strategy should be to focus on its relations with small states and polities that want to benefit economically from the first-order effects of climate warming but need help to balance against the United States and Russia in an increasingly unstable region. Xiao Yang, for example, argues that Greenland will "likely be the first sovereign state created by climate change" [第一个由全球变暖创造的主权国家]—and that China can help to bring forward this outcome by offering Greenland investment and technical and political support. An independent Greenland, in turn, will be a promising potential partner for China as it develops the Northern Sea Route. On the country level, the Chinese analysts also provide specific policy

recommendations to operationalize these findings through investments and cooperative ventures.

Third, Chinese analysts discuss the United States in depth and ultimately dismiss it as a declining hegemon in the Arctic (Li 2015).¹³ In 2017 and 2018, when the Trump administration began pushing to deny China access to the Arctic, one Chinese scholar explicitly advised firms to cultivate relations with smaller Arctic states, sub-national territories, and indigenous communities through concessional infrastructure deals, scientific cooperation, and public diplomacy. With this climate geopolitics strategy, he argued, China could outflank the Americans (Kang 2012). Even after the United States and Denmark successfully blocked China from bidding to finance and build Greenland's airport system in 2018, Chinese commentators remained extremely optimistic that China's relative influence in Greenland and the Arctic in general would keep growing (Zhu 2019).

I find insufficient evidence to prove that these analyses directly influenced policy outcomes. However, as Chapter 7 describes in detail, Chinese central government ministries and firms frequently acted on specific recommendations proposed in these documents. This suggests that even if the authors did not influence policy directly, they were reporting valuable insights about the policy formulation process.

The chapter is structured as follows. First, I introduce and characterize China's official statements and mass media commentary about the relationship between security, national interests, and climate change, and explain my hermeneutic approach. Next, I discuss the Chinese sources themselves. I ask four main questions, each in its own section. First, what do Chinese experts perceive as China's interests in the Arctic, and how do these relate to climate

¹³ Li is a Professor of International Relations at Dalian Maritime University and is Director of its Polar Maritime Research Center.

change? Second, how do they analyze the geopolitics of the region and the prospects for competition and collaboration with other great powers? Third, what strategies and tactics do they recommend for furthering Chinese interests in the Arctic and engaging with the region's small states? And fourth, what is the nature of China's strategic interest in Greenland? Together, the answers to these four questions show that China has been pursuing a climate geopolitics strategy *avant la lettre* in the Arctic for most of the past decade.

4.2 China's official position

This section briefly reviews China's official statements and mass media commentary about how climate change affects China's national interests. These sources are important for multiple reasons. Externally, they communicate China's position to the outside world. Internally, they relate to ongoing policy debates and communicate the decided policy direction to the sprawling party-state apparatus. The analytic exercise of understanding China's climate geopolitics strategy must begin here. Yet, as I argue below, it need not end here. The Chinese official sources are strikingly vague about substantial issues of policy, so it is still useful and sometimes necessary to consult open-source, unofficial documents produced by individual scholars or institutions not directly part of the party-state administrative hierarchy.

China began to make clear its strategic interest in the Arctic in the early 2010s. Chinese government-affiliated Arctic scholars self-identified China as a "near-Arctic state" [近北极国家] as early as 2012 (Stockholm International Peace Research Institute 2012). In 2013, with American support, China became an observer state in the Arctic Council. In 2017, it announced a "Silk Road on Ice" [冰上丝绸之路], which it also refers to as the "Polar Silk

Road” in English-language documents, to extend the Belt and Road Initiative (BRI) to the Arctic (Li 2018). In 2018, China’s State Council published the Arctic White Paper, which self-declared China to be a “near-Arctic state.” The document began by pointing to climate change to legitimize the country’s newly claimed rights and interests. “Global warming in recent years has accelerated the melting of ice and snow in the Arctic region,” it reads. “The Arctic situation now goes beyond its original inter-Arctic States or regional nature, having a vital bearing on the interests of States outside the region” (State Council Information Office 2018).

However, through the mid-2010s, Chinese scholars and diplomats resisted the Western characterization that climate change had any relationship to security at all (Zhou et al. 2014). The Defense White Papers of 2008 and 2010 categorized “climate change” as a “global challenge,” but did not specify their impact on Chinese security or specify a security-related plan for responding (State Council Information Office 2009). In July 2011, the United Nations Security Council debated what the group should do to address threats posed by rising sea levels and competition for water resources as a result of climate change. China’s Deputy Permanent Representative, Wang Min, argued that the topic was not germane to the group: “Climate change could affect security, but it is fundamentally a sustainable development issue” (Zhou et al. 2014, 90). As Chapter 5 will show, the Obama administration in the United States took a similar line at the time, declining to link climate change to geopolitics in its public statements and documents.

Starting in 2014, Chinese government reports began to “securitize” the issue of climate change adaptation (Cao 2018). The National Security Commission’s new “Overall National Security Outlook” discussed a dozen new “non-traditional” security challenges, including the

new concept of “ecological security” [生态安全] (Cao 2018, 80–81). The following year, to coincide with the global climate summit in Paris, a team of Chinese scholars released the nine hundred-page “Third National Climate Change Assessment Report” (People’s Republic of China Ministry of Science and Technology 2015). Primarily authored by the prominent Peking University scholar Zhang Haibin, this was the first Chinese government document to link climate change and Chinese national security publicly and explicitly. Zhang received extensive media attention for his arguments that climate change was already negatively affecting China’s food and water security and would subsequently threaten People’s Liberation Army assets and jeopardize Chinese critical infrastructure and political stability (Zhang 2015).

However, even after this shift, Chinese media remained disciplined about discussing the security and adaptation dimensions of climate change. After Trump announced the U.S. withdrawal from the Paris Agreement in summer 2017, Chinese official statements and party media responses broadly expressed disappointment but did not criticize the United States. Chinese official statements continued to underline the importance of recognizing climate change and that treating it as a global issue in order to combat would mean a need for multilateral cooperation (Swaine 2017). Even provocative nationalist tabloids like the *Global Times* (环球) hewed strictly to talking points and slogans, such as the principle of “common but differentiated responsibilities” between developed and developing economies (Lin 2020).

China’s polar and climate adaptation strategies are sensitive because they amount to undeclared foreign policies (Brady 2018). Most Chinese writing and analysis on the topic—including nearly every source published in English—lies in the realm of propaganda for foreigner consumption [外宣]. Martin Miguel, a prominent analyst of China’s public

communications on Arctic policy, dismissively calls this category of material “exoprop.” He argues that the Chinese government judges its effectiveness “by its success in guiding global discourse” (Jichang Lulu 2018). We should therefore read these sources with an eye for euphemism and intended audience.

China’s strategic interest in Greenland is an even more sensitive issue. Greenland is part of the Kingdom of Denmark, an EU member state and NATO ally. China claims to adhere to a strict foreign policy doctrine of non-interference in other countries’ internal affairs (不干涉内政原则). As I argue in the following sections, between 2012 and 2015, most unofficial Chinese sources believed that Greenland had Denmark’s blessing to move towards independence and therefore quite explicitly discussed Greenland as an autonomous actor. After it became clear that the United States and Denmark opposed Greenland’s relationship with Beijing, the Chinese sources began to use more guarded language, though their arguments did not change. After U.S.-China relations deteriorated in the later phases of the Trump administration and China found itself blocked from the Kalaallit Airports deal, Chinese scholars once again began to write explicitly and at great length about why Greenlandic independence would be strategically desirable for China, and how Beijing might be able to facilitate it. Throughout this period, Chinese official sources rarely referred to Greenland. The unofficial sources were therefore a much better guide to what the Chinese government was thinking—and what it was likely to do next.

For these reasons, to investigate Chinese attitudes and policy formation toward Greenland, we must move beyond the official sources. I exclude official policy statements and “exoprop” from the corpus. I also disregard geological and climatological studies that lack explicit or implicit policy-oriented conclusions. The writings that I include are mostly

reports by policy-adjacent Chinese experts on Arctic affairs published in academic journals, plus a few shorter commentaries by those same authors in state-affiliated nationalist tabloids and one dissertation by a doctoral student at the Central Party School who later became a prominent name in the field. Taken together, the corpus offers a revealing glimpse at the intellectual process of policy formation in the Chinese academic and policy communities, including some of the more candid and cynical views that underlie the government's cautious and euphemistic statements. However, because they are not official, individual sources are not definitive.

4.3 Interpreting open sources

Western scholars have developed various methods for classifying Chinese open sources and using them to develop hypotheses about the Chinese state's views and intentions. These methods are essential to several literatures on contemporary Chinese politics, particularly People's Liberation Army (PLA) Studies. Journals such as the Hoover Institution's *China Leadership Monitor* and the Naval War College's *Red Book* series draw heavily on them. The main interpretative challenge, as Joel Wuthnow observes, is that "there is no shortage of opinions from China's pundit class." The challenge is "assessing which voices matter on which issues" and "distinguish[ing] Chinese experts who are well-informed" or influential in the policymaking process from those who are "are merely prolific" (Wuthnow 2019). Below, I briefly sketch out my own interpretative approach.

Except in rare cases that Chinese commentators are known through informal channels to be individually influential, the most common heuristics are credentials: the commentator's seniority, institutional affiliation, educational pedigree, publication history, and funding body.

Favoring “highly credentialed” individuals and publications is prudent for various reasons. Individuals at Beijing institutions are geographically closer to central government offices and elite party networks than their colleagues at provincial universities. Furthermore, if a commentator holds a senior professorship or fellowship at a major policy-related university, such as the Central Party School [中共中央党校], the Chinese Academy of Social Sciences [中国社会科学院], or Beijing Foreign Studies University [北外学生处], their views may reflect those of colleagues and be informed by more accurate and up-to-date unstated informal knowledge, even if the author is not personally influential.

This interpretive method requires judgment and logical inference. It is hard to establish that any one commentary “speaks for” the state or party. The flip side of the credentialist heuristic is that sometimes senior status and political connections can afford a scholar political protection to make creative arguments and deviate from the party line. There are also exceptions to the general principle that Beijingers know best. Institutions in northeast China with vibrant and prolific Arctic studies programs such as Dalian Maritime University [大连海事大学] and Ocean University of China in Qingdao [中国海洋大学], may have better insight into Greenland-related matters than more famous or prestigious universities in south or central China.

Historical methods offer ways to deal with these challenges, though they have obvious drawbacks. When the discourse is tightly controlled and most authors stick to slogans and party-line talking points, dissent and criticism are noteworthy because they imply that the author may be running a professional risk by speaking his or her mind. Conversely, when a debate is open and wide-ranging, and credentialed authors disagree on substantial issues, it signals that the party leadership has not taken a firm position, so authors are relatively free to

publish unorthodox ideas. In these cases, sometimes it is the patterns of explicit or implicit agreement that are most noteworthy. In either case, the key principles are comparison, hypothesis testing, and thorough consideration of alternative interpretations. Sinologists often deal with this problem by treating a body of unofficial texts as a discourse and studying trends within it, such as elite sentiment, topics of interest, and areas of agreement and disagreement (Gewirtz 2020; Kania 2021). These studies often include relevant Chinese-language words and phrases in parentheses, to help readers trace patterns in the use of slogans and linguistic formulations (Jaros and Tan 2020). Some large-n studies use sentiment analysis and other big data tools to extract insights, but for a sample of this size such methods would obscure more than they illuminate.

Insofar as credentials are signals of authority, some of the authors cited in this chapter are indeed affiliated with government institutions or universities and think tanks that could plausibly influence the formation of China's Arctic policy, or at least have insight into its mechanics. These include the State Oceanic Administration [国家海洋局] and Ministry of Land and Resources [国土资源部], and the Central Party School [中共中央党校], all of which appear to have outsized intellectual and practical influence on China's Arctic policy. The sensitivity of the topic and the government-funded nature of their research was also the reason that my advisors and I decided not to pursue on-record interviews with Chinese sources. We judged that this would create potential security risks for myself as a researcher and pose potential ethical problems surrounding attribution and data protection. It was also unlikely to yield interview data more helpful than the abundant open-source literature.

The distinctly limited body of available sources in China raises various comparability issues, which I worked around in the following ways. Chapter 5 on the United States also

draws primarily on similar open-source written materials, though more of the U.S. sources were produced by government agencies and other authoritative sources. I also corroborated my conclusions whenever possible in on-background issues with former U.S. intelligence officials and national security personnel, something I could not do in the Chinese case. Ultimately, because most of the Chinese sources discussed in this chapter do not formally speak for the government, the burden of proof was on me to show a persuasive pattern of correlation between their analyses and recommendations and Chinese actions. Chapter 7 discusses this in more detail through case studies and therefore makes a stronger case for the relevance of these sources than this chapter can do alone.

To be clear, the commentators whose views I discuss in this chapter do *not* speak directly for the Chinese state. In this sense, they represent a different type of evidence from the interview data and government publications that I draw on in subsequent chapters about the United States and Greenland. Nor can I prove that their arguments influenced Chinese policy formation. However, it is not my purpose here to prove this, nor is it necessary to our understanding of climate geopolitics to show that these individuals influenced policy. What I can prove is that, when read as a body of literature or discourse, the Chinese academic debate about climate geopolitics and Arctic policy was coherent and sophisticated and has strong *explanatory power* for the Chinese state's policies and actions during the same period. As a body of work, this discourse is highly compatible with vague statements in the 2018 Arctic White Paper but proposes a far more detailed, assertive, and opportunistic playbook than the White Paper suggested. As Chapters 7 and 8 show in more detail, the commentaries and policy papers discussed below also explained (and predicted) a wide range of *actions* taken by the Chinese state and Chinese state-owned enterprises in multiple Arctic countries over a

period of years. Thus, the hypothesis that this discourse has explanatory power is intuitively plausible. Meanwhile, the converse—that the Chinese state and Chinese firms would have taken precisely these actions for an entirely different set of reasons not articulated anywhere in the open-source scholarly literature—is quite implausible. I therefore assert that this literature provides insight into the underlying logic or analysis behind the Chinese state’s actions during this period, even though the nature of that insight is not clear. The rest of the chapter traces how this discourse emerged around 2012 and how it quickly coalesced into a coherent national strategy for the Arctic and climate geopolitics more generally.

4.4 Chinese interests in “new strategic domains”

China has long recognized that the polar regions might one day be geopolitically valuable. In 1925, China’s Beiyang government signed the Spitsbergen Treaty, securing the right to conduct economic and scientific activities in Svalbard (Qu et al. 2011; Brady 2018, 44). When China’s State Oceanic Administration (国家海洋局) was founded in 1964, part of its mission was to “engage in polar expeditions in the future” (“Bingwan A” 2010, Brady 2018, 45). Mao Zedong recognized that the Arctic sits at the midpoint of ballistic trajectories between North America and East Asia. As China prepared to become a nuclear power, it explored the possibility of building missile silos in both the Arctic and Antarctic. Chinese geography textbooks have long taught that the polar regions contain vast untapped reserves of natural resources. One Chinese high school geography text asks students: “Which mineral does the Antarctic have in greatest quantities: a. coal, b. natural gas, c. oil, d. gold?” (Brady 2018, 42). (The answer is gold.) This implies that Chinese government planners harbor some

vague long-term interest in extracting the mineral resources from the polar regions—even though mining in Antarctica has been banned under international law since 1991.

In the early 2010s, Chinese analysts once again began to discuss the Arctic as an area of potential geopolitical competition with the United States. As Kang Wenzhong of the Central Party School noted in an illuminating doctoral dissertation about “China’s rights and interests under the superpower game,” China’s stake in the polar regions related directly to its geopolitical rivalry with the United States (Kang 2012). If the U.S. and other Western countries were to conduct military operations in the Arctic, he wrote, it would greatly shorten the distance with the hinterland of Eurasia, threatening Chinese geopolitical interests and national security. Kang’s core contention was that China lacked a *strategic strong point* [战略支点] to access the Arctic and compete effectively with the United States so far from its own shores (Kang 2012, 124). The need to establish at least one strong point would become consensus and would drive Chinese strategic discourse and policy in the Arctic for the next decade.

In 2014, the Chinese government classified the polar regions as a *strategic new domain* [战略新疆域]. This was a new conceptual category that also encompassed the deep sea, outer space, and cyberspace. The strategic new domains are zones where norms and governance structures are flexible enough to accommodate a larger role for China. They are therefore spaces where China has a narrow window of time to gain an advantage and play some role in writing the rules (Doshi 2021). As Xu Qingchao argues, strategic new domains are directly related to China’s national security (Xu 2019, 74).¹⁴ The first recorded use of the

¹⁴ Xu Qingchao is a Lecturer at the University of Chinese Academy of Sciences and Researcher at the National Institute of Innovation and Development Strategy.

term was in a speech by Yang Jiechi, then the director of the Central Foreign Affairs Commission Office (Yang 2014). Following Yang's comments, numerous references to the strategic new domain concept began to appear in the Chinese national security discourse, both as a theme for conferences and colloquia and as a buzzword for high-tech projects in need of funding (Cyberspace Administration of China 2015).

What is so new about the Arctic strategic domain? The deep sea, outer space, and cyberspace are new in the sense that accessing them requires advanced technology, such as undersea drones, rockets and satellites, digital infrastructure, and artificial intelligence. The Arctic is obviously different. It is one of the world's major geographic regions, encompassing the territory of several sovereign states, governed effectively by its own treaties, norms, and institutions.

Chinese sources state explicitly that climate change is the reason that the Arctic has taken on a new strategic significance. Over the next few decades, they note, the retreat of the sea ice will make the region far more navigable and open up commercial opportunities both for China and its strategic competitors. Without this expectation, the region would not be such a desirable destination for Chinese outbound investment. Nor would China, as a non-Arctic state, have any legitimate basis to claim rights and interests [利益] there. It is no accident that when the State Council released its 2018 Arctic White Paper, it began the Forward with the words "global warming" [全球变暖]. "The Arctic situation," the Forward continued, "*now* goes beyond its original inter-Arctic States or regional nature, having a vital bearing on the interests of States outside the region" (State Council 2018, emphasis added). This formulation makes clear that the Chinese state sees Arctic climate change not as a *contingent* risk that can be averted through collective action, but as an environmental *fact*

that requires adaptation and is affecting the national interests of all states, inside and outside of the region. Ultimately, climate change is therefore presented as a rationale and a legitimizing basis for China to revise the regional order.

4.5 Views of climate geopolitics

Chinese commentary on climate geopolitics in the Arctic fits into three overarching arguments. First, climate change is an undisputed fact [不争的事] that will impact the Arctic before the rest of the world, opening up substantial opportunities for mining, drilling, fishing, logistics, and geopolitical expansion (Dong 2017).¹⁵ Second, the main geophysical mechanism of climate change is to transform the physical landscape of the Arctic, with global consequences. This has second- and third-order effects on Chinese national security, so China is a legitimate stakeholder in the region and entitled to a voice in Arctic governance. Third, the United States' inconsistent climate policy and approach to climate issues in the Arctic reflects a combination of geopolitical weakness and domestic division. All of this informs a broader view that “geopolitical factors” [地缘政治因素] have “opened a window of opportunity” [打开了“机会窗口”] for China to improve relations with smaller Arctic states (Xu 2019, 73).

References to climate change in the Chinese literature on the Arctic are ubiquitous but vague.¹⁶ None of the sources I surveyed discuss specific projections of average temperature increase by mid-century, expected rate of sea level rise, or other such geophysical effects. Rather, references to climate change are used to preface geopolitical arguments and offer a

¹⁵ Dong was a doctoral candidate in International Law at the South China Sea Institute, Xiamen University.

¹⁶ Like many English-speakers, Chinese Arctic scholars tend to use the terms climate change [气候变化] and global warming [全球变化] interchangeably.

concise rationale for the Arctic's growing strategic importance. Nearly every scholarly author writing on Arctic political affairs refers to climate change as a background trend (Lu et al. 2013; Guo and Sun 2014; Li 2019). There is also a common trope that climate change has made the Arctic a new “hot spot” [热点] (Guo and Sun 2014, 80; Zhu 2019, 14).¹⁷ The implication is that climate change is a fundamental reason that the Arctic is emerging as a zone of geopolitical competition. This aligns with my definition of climate geopolitics.

In discussions of the Arctic, Chinese analysts mentioned climate change as a security risk only insofar as this legitimized China's stake in the region. For example, Dong Limin cited studies from geophysicists and meteorologists at Peking University to argue that climate change in the Arctic will cause a “series of problems” for China, touching “land, military, society, economy, ecology, resources, politics, and nuclear safety,” among other things (Dong 2017). The melting of Arctic ice will make Chinese coasts vulnerable to inundation, release “super viruses which may affect the health of all human beings” and might even unleash “potential threats that have not yet been discovered.” Dong also noted that the inevitable “series of global reactions” [引起的一系列全球性反应] to global warming will inevitably affect Chinese security, too. On the other hand, he noted that China is actively working to combat climate change, which amounts to a national contribution to the Arctic and entitles China to international recognition (Dong 2017).

Far more commonly, Chinese analysts discuss climate change as a strategic opportunity. They credit global warming with turning “frozen Greenland” into the “focus of global mining” with “broad prospects” for economic development in multiple industries (Lu

¹⁷ Guo and Sun's report presented “the interim results of the 12th Five-Year Plan National Science and Technology Support Program project ‘Key Technology Research on Climate Change and National Security Strategy.’” At the time of publication, Zhu was a graduate student at Ocean University.

et al 2013, 53; Zhu 2019, 14). Guo Peiqing, a leading voice on Arctic geopolitics, wrote that climate change and melting sea ice had revealed the Arctic's "special geographic location and strategic value" [特殊地理位置及战略价值] (Guo and Dong 2014, 101).¹⁸ Warming temperatures are also forcing Arctic countries to reassess their strategic alignments and consider how they might prepare for this new reality by partnering with China. "In the face of climate change, Arctic countries have thrown out their [old] policies and clarified their positions on enhancing Arctic governance and defending their own interests," he wrote in another paper (Guo and Sun 2014, 81).

The Chinese analysts also pay particular attention to the effects of climate change on Arctic small states, which they present as potential geopolitical partners. Zhao Ningning and Ou Kaifei argued that "generally speaking, the main topics of small countries' foreign policy [include] issues such as global environmental changes" (Zhao and Ou 2014, 115).¹⁹ They also hinted that this could be why Iceland may be interested in helping China take on a role in regional governance.

Finally, the Chinese sources display interest, bafflement, and guarded optimism concerning the United States' incoherent climate geopolitics strategy. During the presidency of Barack Obama, they took the U.S. government's official statements on climate change largely at face value. Guo and Sun noted that Obama's 2010 National Security Strategy mentions climate change twenty-three times and concluded that Washington must therefore

¹⁸ Guo is a Professor in the School of International Affairs and Public Administration at Ocean University of China (*Haida*) in Qingdao and Executive Director of the university's Research Institute of Polar Politics and Law, which was founded in 2010 as one of China's first university programs focused on Arctic and Antarctic law and politics. Zou Qi is one of his students. The paper was the result of the 2013 China Polar Soft Science Research Project "Arctic Strategy/Policy Research of Arctic Countries (U.S., Canada and Russia)," supported by the National Social Science Foundation of China.

¹⁹ Zhao was a Lecturer at the China Institute of Borders and Oceans, Wuhan University and a Researcher at the Center for Cooperation and Innovation in Territorial Rights and Maritime Interests.

consider climate change mitigation as a “core” security interest. They also argued that Hillary Clinton, who was seen at the time as Obama’s presumptive successor, did not think that China or any other country sought a “contest for the region” [地区的争夺]. “On the contrary,” they wrote, Clinton “sees the changing environment as the main ‘threat’ in the Arctic” (Guo and Sun 2014, 81–84).

This suggested that there was a window of opportunity for China to raise its profile in the region Arctic. Guo and Sun assessed that Obama’s preference for “cooperation” on climate issues had showed that his interest in the Arctic was “relatively mild” and his ability to conduct meaningful naval operations there was “relatively weak” [相对温和] (Guo and Sun 2014, 80). “As climate warming intensifies, the Arctic issue will rise further on the U.S. government’s agenda,” they predicted. But since Obama did not see climate change in geopolitical terms, he would probably welcome China into the region. After all, the Obama administration had supported China’s successful application for observer status in the Arctic Council in 2013. Guo and Dong argued that the Obama administration was approaching climate change as a discourse and public diplomacy issue rather than a geopolitical issue. Obama wanted to use climate change to “establish the United States as a world leader, and thereby occupy the moral high ground” [道德制高点], they argued (Guo and Dong 2015, 54).²⁰ If this was correct, the Democrats would not stand in China’s way.

After Donald Trump was elected president in November 2016, Chinese commentators struggled to explain why the U.S. had suddenly decided that climate change either was not

²⁰ Guo Peiqing and Dong Limin, 美国的北极战略 “Meiguo de beiji zhanlüe” [U.S. Arctic Strategy], *Meiguo yanjiu* [American Studies] 6 (2015): 47–65. See especially page 54. This article is an interim report for the National Social Science Fund’s key project “Arctic Governance and China’s Participation in Strategic Research,” managed by the National Office of Philosophy and Social Sciences..

real, or was no longer a national security threat. They noted that domestic political bargaining was probably the explanation. As early as July 2016, Sun Kai and Yang Songlin had argued that the “constant friction” [摩擦不断] and inconsistency in U.S. climate policy was caused by conflicts of interest between the federal government, the state of Alaska, and international institutions (Sun and Yang 2016, 37).²¹ Yang continued to make this argument as late as 2018. “In the process of climate policy formulation, different interest groups are engaged in fierce games to fight for their respective interests,” he suggested. “Democrats support strict climate change emission reduction measures, whereas Republicans question the authenticity of climate warming” (Yang 2018, 27). Trump, Yang argued, was responding to domestic pressure to lower gas prices and expand U.S. energy production. In other words, America’s confused climate policy expressed a contradiction in U.S. national interests.

By 2019, Chinese commentators recognized that the Trump administration’s policy of climate denial was actually part of a cynical strategy to shirk responsibility for climate mitigation and use its resources to confront China geopolitically. Guo and Zou also noted that United States was competing more aggressively with Russia in the Arctic. Their conclusion was that rapid “re-militarization” [再军事化] of the region was likely (Guo and Zou 2019, 37).

Yet some suggested that Trump’s denial of climate change actually presented a strategic opportunity for China. Trump’s climate policy is “constrained and impacted” [收到...制约和干预] by domestic and international opposition, Yang argued. It is “not destined to be smooth sailing” because it lacks domestic buy-in and alienates Arctic small states who

²¹ Sun was Associate Professor at the School of Law and Politics, Ocean University of China. Yang at the time was a doctoral candidate at Wuhan University’s Institute of Borders and Oceans and the Center for Collaborative Innovation on National Territorial Sovereignty and Maritime Rights.

do not want the United States to abdicate leadership on climate change mitigation. The more the United States appears to be pursuing a self-interested climate policy, Yang wrote, the more “responsible” China appears by comparison. Yang therefore recommended no changes in Chinese policy in response to Trump’s withdrawal from the Paris Agreement. “It is necessary [for China] to strengthen the tracking and assessment of U.S. Arctic policy, to adjust cooperation with the U.S. on Arctic affairs in a targeted manner, and to promote the construction of the “Ice Silk Road,” he concluded (Yang 2018, 31–32). In other words, as long as the United States lacked a viable strategy to compete effectively in Arctic climate geopolitics, time remained on China’s side.

These analyses shared some basic premises. First, Arctic climate change is ongoing and probably irreversible. Second, these geophysical changes will change the Arctic’s geography, expanding the scope of China’s interests and giving China new opportunities to promote those interests. And third, the United States, China’s superpower rival, was probably assessing the situation in similar terms, and was pursuing a cynical and self-interested strategy, but it faced domestic constraints and might not be perceiving the situation clearly. Thus, without giving a name to their concept, Chinese analysts were developing a practical theory of climate geopolitics that offered a roadmap for exploiting the United States’ inability to adapt effectively. As I will argue in the next section, the Chinese analysts assumed that other countries would also inevitably adopt some form climate geopolitics strategy, because it was in their interests to do so. Based on these suppositions, they debated how climate geopolitics would reshape the long-term balance of power in the region.

4.6 Intervening in the Arctic balance of power

The Chinese analysts described the Arctic as a geopolitically stable region marked by overlapping blocs of cooperation and competition. The two great powers are the United States and Russia, though Canada's icebreaker fleet makes it a formidable naval power and one of the region's "three dominant countries" [三个国家...主导地位] (Zhao and Ou 2014, 122). The others—Norway, Sweden, Finland, Iceland, and Denmark—are small states broadly associated with the "Western" bloc. Internal rivalries aside, the Arctic's five "core countries"—the U.S., Russia, Canada, Norway, and Denmark—see a collective interest in preserving their monopoly on regional governance (Xiao 2016, 20). Iceland, as a small state, has little influence in Arctic governance anyway and may be inclined to partner with a larger non-Arctic state such as China to raise its profile (Deng 2014; Zhao and Ou 2015). The same logic would also apply to Greenland should it become independent.

Under George W. Bush and Barack Obama, the United States was portrayed as disinterested in the Arctic, conscious of its limited influence, and keen to prevent change. "The United States became an Arctic country due to the purchase of Alaska," Guo and Sun argued, suggesting that this made U.S. claims to be an Arctic power less legitimate (Guo and Sun 2014, 80). They then cited U.S. government reports that the U.S. Navy had lost its ability to operate in cold combat environments since the Cold War. "From a geographical point of view," they continued, the United States obviously cannot be counted as an Arctic power." Washington influences Arctic geopolitics "only because it is the only superpower in the world today" (Guo and Sun 2014, 80). U.S. policy toward the region is further muddled because of the ongoing tension between the state of Alaska and environmental groups on the other (Guo 2015; Sun 2016).

For these reasons, the United States is a declining hegemon trying to reduce tension and delay strategic expenditures (Li 2015). Before the Ukraine crisis soured U.S.-Russia relations, Guo and Sun even argued that the U.S. had “acquiesced to” [默许] or “connived with” [纵容] China to bring it in as an observer in the Arctic Council to balance against Russia (Guo and Sun 2014, 94). This was not an accurate assessment, but it illustrated the confidence that permeated the Chinese discourse.

Starting in the middle of the decade, China achieved détente with Russia in the Arctic. This took some time. As late as 2014, Guo and Sun described Sino-Russian energy cooperation as “bumpy” [路途坎坷] and contrasted it with the “smooth” [顺利] collaboration between ExxonMobil and its Russian partners. Within a year, after Russian President Vladimir Putin had visited Beijing multiple times, the tone of the discussion shifted abruptly. In 2015, Guo and Dong noted that Russia, which had previously “adhered to the policy of foreign exclusion,” is “adapting” in “positive” ways by soliciting Chinese investment in its Arctic oil, gas, and shipping infrastructure (Guo and Dong 2015).

In 2017, the Yamal LNG plant on Russia’s Arctic coast, 29.9% owned by Chinese state-owned entities and largely serving Chinese demand, went into operation. Both countries seemed happy with the results. By 2019, Chinese nationalist tabloids carried op-eds praising Sino-Russian competition. “Compared with the United States and the West,” Han Xianyang observed, “Russia’s attitude towards China in the Arctic is quite positive” (Han 2019). The Chinese analysts were also optimistic that U.S. efforts to rally NATO and its partners Sweden and Finland against Russia would backfire (Guo and Yang). Washington’s regional allies remain loyal because the U.S. keeps the neighborhood stable. The implication was that small Arctic states would welcome China into the region to mediate tensions and serve as a

stabilizing presence. This was yet another reason for China to press for access to the region while the window of opportunity was open.

As early as 2012, Chinese analysts endorsed using geoeconomic strategies to seek a foothold in the Arctic. Kang recommended that China “consider using the contradictions between Arctic countries or using bilateral and multilateral cooperation with Arctic countries to pursue China’s geostrategic interests” (Kang 2012). In particular, he advised “intervening in Arctic affairs through enterprises, civil society, and scientific research institutions.” These would “enable Chinese enterprises to establish good relations with local governments, enterprises, the media, and the public.” He also recommended that China present itself as a “responsible power, not just an energy acquirer,” and to present itself as a champion of the Arctic’s indigenous peoples. This playbook of “downplaying politics” [淡化政治色彩], he argued, would “reduce resistance to the implementation of China’s Arctic strategy” and give Beijing more strategic flexibility.

On a tactical level, no commentator articulated China’s commercial diplomacy playbook more clearly than Xiao Yang, Director of the Arctic Research Center at Beijing International Studies University (Xiao 2016). Xiao wrote in brisk and judgmental analytic terms about the “balance of power” [权力平衡] in the Arctic. In truth, his conceptual framework more closely resembles Stephen Walt’s concept of the “balance of threat,” where threat is defined by a convergence of opposing interest with potential competitive ability (Walt 1985). Xiao first argued that in the “fierce game” for Arctic governance, China’s main competitors were Japan and South Korea, the other main external claimants to the region, who also wanted to build competing logistics networks in the Arctic (Xiao 2016, 21).

Xiao recommended that China use infrastructure megaprojects to crowd out Japanese and Korean investment and show small Arctic states the benefits of partnering with China. In what he somewhat confusingly dubbed a “low-cost strategy,” Xiao argued that China should “take advantage of its overseas project contracting cost advantages and capital funding advantages” to “build large-scale Arctic shipping assistance and energy production facilities.” His recommendation, in other words, was to use state-backed enterprises and banking capital that were not bound by the hard profit constraints of private businesses to outbid the competition.

Eventually, Xiao argued, these advantages would compound to create insurmountable “barriers to entry” for Japanese and South Korean firms. “Once China obtains the construction rights to several iconic projects,” he argued, “it will produce a ‘Matthew Effect’” in which China wins more and more bids and eventually becomes the main infrastructure provider for the entire region. Xiao believed that if China started by cementing its political relationships with Arctic states, control over the region’s logistics infrastructure would naturally follow. “Due to the high cost, long construction periods, and large scale of Arctic projects, China can use engineering projects to bind the political interests of related countries to China’s,” he argued. He dubbed this approach the “issue agglomeration strategy” (Xiao 2016, 28–29).

After China’s first attempts to invest in the Arctic did not go as planned, Chinese scholars had to recalibrate. Xu Qingchao, a lecturer at the Chinese Academy of Sciences, used the Arctic as a case study to investigate how public opinion and local resistance in partner countries can scuttle Chinese investment projects. By 2019, this was of course a global question relating to the supposed backlash against the Belt and Road Initiative

(Freyermann 2020). The “political and social factors of the target country are the most prominent constraints on China’s Arctic investment,” Xu argued. To “break through barriers” [打破制约] of local opposition, he advised Chinese companies to “maintain interconnectivity with the local” and “establish a correct corporate image,” presumably by distancing themselves from the Chinese state (Xu 2019, 70).

To assess project-level risk, Xu advised firms to start by assessing the “hard environment” [硬环境], which included proven resources and energy reserves, capital adequacy, and infrastructure—all qualities that are “basically certain and measurable” [基本确定且可测的]; while paying even closer attention to the “soft environment” [软环境] that included things like the quality of the labor force, the partners’ business level, market maturity, regulatory situation, policy orientation, and public opinion (Xu 2019, 72). Xu argued that the “obvious differences in values” [在价值观上显而易见的差异] between China and local populations was the reason China was struggling to adapt to the soft environment (Xu 2019, 74). If exposed, this could endanger even the most straightforward deals.

In other words, China had to get better at hiding its intentions and managing public opinion in the countries where it hoped to invest. Xu argued that these two phenomena interact recursively in a “mimetic environment” [拟态环境], “constraining each other” [二者相互牵制、互为掣肘] and leading to vicious cycles that can scuttle even the most benign of proposed investments (Xu 2019, 73). Xu argued that “the one great guarantee of success” [成功的一大保障] for Chinese companies is to cultivate relations with local populations, particularly indigenous ones. This did not mean that the Chinese firms should “circumvent”

[绕过] the relevant government departments, but that building relationships with a range of local stakeholders was essential to managing the responses of elites and regulators (Xu 2019, 75). Xu used the example of the Zhongkun Group's "ecological golf course" proposal in Iceland, discussed in more detail in Chapter 8, to illustrate these points. His message was that once the local suspicion was aroused that a Chinese company was acting at the behest of the state to fulfill some unspecified political or military goal, the deal was doomed. Xu was pointing out that China would benefit from giving its companies more operational independence in pursuing foreign projects. This would have the added benefit of boosting the competitiveness of Chinese firms, he predicted—rather than "passively serve the national strategy," they could make "independent decisions based on their own development needs" (Xu 2019, 75). As Chapter 7 argues, China did not end up taking this advice in Greenland, which was one reason the three Chinese deals all failed.

In conclusion, these scholars were advocating adapting to the Arctic region the geoeconomic and public diplomacy playbook that other Chinese businesses were refining in the Belt and Road countries. Chinese firms, including private ones, would pave the way by striking deals, offering concessionary investments, and forming relationships with politicians and local communities. The Chinese government would quietly support these efforts and eventually expand them into broad bilateral partnerships that advanced China's national interests in the region. It was striking how candidly these analysts articulated the playbook, which would soon come under intense criticism from the Trump administration. This discussion also made clear that China saw the Arctic's small states as its most promising potential long-term partners.

4.7 Cooperation with Russia

Meanwhile, to have any chance of operating successfully in the Arctic, China needed at least a functional relationship with Russia. Sino–Russian cooperation has little direct relationship to the Greenland case. Nevertheless, it is an important background story in the chapters to come, so it that deserves brief discussion here. Russia is the most important partner for the China’s Arctic strategy. The two have found numerous areas of cooperation since 2016, particularly concerning energy and satellites. The partnership also has limits, which help explain why China might believe it needs another more pliable partner in the region as climate geopolitics unfolds.

Unlike China, Russia explicitly expresses that its Arctic policy is an opportunistic form of climate adaptation (Gustafson 2021). Moscow first laid out its strategic plans for the Arctic in 2008. Since then, it has amended the doctrine in places but has consistently followed the main thrust (Sergunin and Konyshev 2018; Laruelle 2020). In 2014, for the first time, Russia included the Arctic in military doctrine (*Voennaia doktrina* 2014). Since 2007, Moscow has actively asserted territorial sovereignty over the Lomonosov Ridge, a continental shelf extending far into the Central Arctic Ocean, and it has moved to develop Arctic offshore oil and gas production, often with Chinese financing. It has modernized and expanded its Arctic infrastructure, reopening eight former Soviet air bases along the Arctic coast and building six new ones. Russia now has sixteen deepwater ports on the Arctic coast and the world’s largest icebreaker fleet (Senate ASC 2020). The Nagurskoye base in Franz Josef Land, an island in the Arctic Ocean, is the northernmost military facility in the world. Russia claims that its actions are defensive, yet few commentators in NATO countries believe that these capabilities are primarily defensive (Conley and Melino 2020). Defense

Minister Sergei Shoigu has noted that the Arctic has become a “center of interest” for other powers, particularly the United States, and warned that this “could lead to conflict” (TASS 2018).

Many Russian commentators openly discuss climate change in geopolitical terms. Temperatures in the country are rising twice as fast as the global average, posing risks to the country’s housing stock and strategic infrastructure due to wildfires, melting permafrost, and other natural disasters. The global response to climate change is also an exogenous economic risk to Russia, which draws nearly half of its fiscal revenues from fossil fuel exports (Gustafson 2021).

On the other hand, many Russians, including President Vladimir Putin, claim that warming temperatures will bring new economic opportunities that will outweigh the downsides of climate change. In 2017, Putin called climate change “a factor that bolsters optimism” and noted that it “provides more favorable conditions for economic activity.” He has criticized wind turbines for killing birds and disturbing earth worms. He once quipped that climate change would enable Russians to spend less money on fur coats (Economist 2019). Putin even denies that climate change is man-made, noting in 2019 that it could easily be caused by other “processes in the universe” (Deutsche Welle 2019). Cooperation with China in the Arctic is one way for Russia to adapt profitably to climate change—by unlocking a new market for its deep-sea oil and gas.

Since the United States and Europe imposed financial sanctions in 2014, Russia’s Arctic strategy has increasingly leaned on Chinese financing and technical assistance. The most important cooperative projects are the Yamal liquified natural gas (LNG) plant and the Power of Siberia gas pipeline. Russian state-owned entities maintain majority equity control

of Yamal, but China National Petroleum Corporation (CNPC) and two Chinese state policy banks each own large minority stakes. The plant produces approximately sixteen million tons of LNG annually, most of which goes to China. The partnership has been politically and commercially successful and is widely seen as the basis for future bilateral cooperation (Lino 2020).

Russia and China are developing two other projects—Arctic LNG 2 and Ob LNG—and an LNG port at Sabetta, with planned completion dates in the early 2020s (Laruelle 2020). Russian economic planners and business groups have been in the driving seat of pushing closer cooperation with China, at times to the consternation and concern of Russia's security establishment.

Yet dependence has also bred mistrust. Russia's defense and intelligence community opposed Putin's decision to "link up" Russia with China's Belt and Road Initiative in 2016, seeing the BRI as a strategy to "steal Central Asia from us" (Gabuev 2017). Russia has blocked China from taking controlling stakes in critical infrastructure within its borders, even in flagship cooperation projects far from major cities (Freyman 2020). It has been particularly cautious about regulating China's access to the Northern Sea Route, implementing, in 2019, new regulations that require warships, including Chinese ones, to request permission to transit the NSR forty-five days in advance and take a Russian pilot on board to supervise the journey. Even Chinese commercial vessels that transit the NSR can only do so with Russian naval escorts (Office of the Secretary of Defense 2021). These measures indicate that Russia understands it is the weaker partner in the relationship and believes it must maintain its position as China's gatekeeper.

China is also aware that its Arctic interests do not perfectly align with Russia's. As Wang Chuanxing of Tongji University told the *South China Morning Post* in March 2021, "Russia sees the Arctic as its backyard and has vast security interests there . . . It's not practical to expect big moves from them that will be seen as unilaterally beneficial for China" (Lo 2021). One Chinese scholar even fretted that Russian attitudes toward the Silk Road on Ice were "undergoing a 'hot to cold' transformation" (Xu 2021).²² This was concerning, Xu argued, because the initiative is "clearly and profoundly linked to the Belt and Road" and China's broader national strategy (Xu 2021, 122–123). In short, China needs Russian support to have any viable Arctic strategy at all. But China is aware that Russian support is opportunistic. If China can cultivate other regional partners, it will have more strategic flexibility.

In the meantime, China and Russia have both benefited from regional cooperation. Aside from the Chinese merchant ships traversing the NSR, the most prominent partnership is in aerospace. The Chinese Beidou [北斗] system and the Russian GLONASS are satellite-based navigation systems intended to compete with the Global Positioning System (GPS). For both countries, reliance on GPS—a U.S.-operated system—is a strategic vulnerability. Satellite communications are central to nearly all combat operations, particularly early warning, force readiness, and drone operations. In 2015, Russia and China signed a memorandum of intent to make Beidou and GLONASS largely interoperable. In 2018, they agreed to use the same chip sets in their satellite systems, allowing them to share data freely (Episkopos 2018). When completed, the system will be hundreds of times more accurate than

²² This Xu—not Xu Qingchao—is a lecturer at Wuhan University. His study was funded by the National Social Science Foundation.

China's current geopositioning and imaging systems (People's Daily 2015). The creation of an integrated Sino-Russian satellite architecture is important because it will force them to share sensitive data and capabilities for the long term.

To improve Beidou's performance, China needs a geographically dispersed network of ground stations (Wood, Stone, and Lee 2021). In general, the more stations, and the more widely dispersed they are across a region, the more accurate the potential mapping ability. Many of China's civilian scientific research activities in the Arctic are likely interoperable with Beidou. One 2012 Chinese government report boasted that the Antarctic stations could facilitate or interfere with precision missile strikes and target and communicate with various satellite systems (Brady 2017). In 2013, one Chinese news report quoted a military source disclosing that China's Antarctic bases would be among the first targets in any U.S.–China war because of their importance to Beidou (Brady 2017).

China's Zhongshan Station in Antarctica was set up with satellite capability in 2010, and Kunlun Station in 2015. These facilities are nominally weather-monitoring stations are not necessarily related to climate geopolitics (Global Times 2021). But they will improve China's domain awareness and extend its ability to operate in the region with unmanned aerial and underwater vehicles (drones). This capability will become important in the future as maritime traffic in the region increases.

China has no Beidou ground stations in North America, meaning Greenland's geography makes *it* a desirable partner. To date, China has not won approval to build satellite stations in Greenland, though it has proposed scientific cooperation projects that may be covers for this goal (interview with Vittus Qujaukitsoq). This was illustrated in one telling event in Kangerlussuaq, Greenland in May 2016. Nearly one hundred Chinese nationals were

in attendance, and only two Greenlanders (Cui 2017). Two senior Chinese scientists gave remarks. One of them was Cheng Xiao, director of the Global Change and Earth System Science Research Institute, who according to Chinese reports is leading a project to build a “small satellite constellation of low-orbit remote sensing scientific experiments for Arctic monitoring.” The other was Zhao Yaosheng, an engineer with a military background who was credited with coining the name Beidou. Photographs and promotional materials for the event described it as a satellite launch. The event was not reported in any Greenlandic newspaper until an investigative blogger revealed it five months later. The Greenlandic government denied knowledge. China also repeatedly pressed the Greenlandic government to expand scientific research collaboration and allow it to construct research stations on the Greenland Ice Sheet. These facts do not relate directly into the case studies in Chapter 7, but they illustrate yet another way in which China would draw long-term benefits from a strategic presence in Greenland.

4.8 Approaching Greenland

Thus far, this chapter has discussed how Chinese analysts interpreted the regional balance of power in the Arctic and assessed future possible directions in response to climate change. Their conclusion was that while relations with Russia were essential, China also needed to cultivate a close relationship with at least one small state, likely Iceland or Greenland, over which it had greater leverage in the bilateral relationship. I have shown that Greenland met multiple of China’s criteria. This section will discuss how Chinese analysts assessed Greenland’s natural resources and political system and created a customized plan of approach.

At first, China was primarily interested in Greenland's mineral resources, which it saw as valuable largely because of anticipated future climate change. The earliest available document on a policy report written by Song Guoming, a researcher at the Ministry of Land and Resources in 2012, about the broad prospects for mining cooperation in Greenland (Song 2012). Song expressed keen interest in Greenland's natural resources, which he claimed included oil, gas, iron, zinc, molybdenum, copper, and rare earths. Greenland had "huge investment potential" [投资潜力巨大], he wrote, and was one of world's "least developed regions" [世界上最大的为开发地区之一] for natural resource extraction (Song 2012, 24). Most of Greenland's resources were not commercially viable at present, he conceded. But "as the global warming trend continues [随着全球气候 变暖的趋势进一步延续], conditions for mining will gradually improve and more resources will be discovered (Song 2012, 28). Song wrote excitedly about the prospects of a China–Greenland geopolitical partnership. Greenland had "carried out self-government" [实行了自治] starting in 2009, he noted, and was now actively looking for foreign investment (Song 2012, 27). These efforts were also attracting growing interest from the private sector. Finally, Song discussed "a few potential cooperative projects" [一些合作项目] that his ministry should investigate in more detail (Song 2012, 28–29).

Song saw three key reasons to invest in Greenland, which add up to a climate geopolitics argument. His first point related to geography. "Greenland is the world's largest island," he noted, discussing its physical dimensions and the distribution of people across the landmass. Second, Greenland was intent on achieving independence. Song briefly acknowledged Danish "sovereignty" over Greenland but he then discussed at length how Denmark had granted self-government to Greenland in 1979, and how three-quarters of

Greenlanders had voted in 2008 for autonomy, suggesting that Greenland was inevitably bound for full independence. “Greenland belongs to the [category of] Nordic countries,” he noted. It has a “a stable political system” [种植体制稳定] and “perfect legal system” [法律体制完善] that would offer protection for prospective Chinese investors (Song 2012, 25).²³ Song’s last and most important point discussed the relationship between Greenland geography and its political system under climate change: the island is the “front line of global warming” [地球变暖的前线] (Song 2012, 24).

Song saw two main reasons that Greenland’s mineral wealth had never been tapped: Danish hostility to development and the harsh climate. Now, as climate change proceeded and Greenland gained the confidence to prepare itself for a future of regional warming, “all this seems to be changing.” Citing unnamed “American experts,” Song argued that “when global warming begins to melt the huge ice sheet, it will become easier to open up Greenland’s natural resources.” The anticipation of future climate change has therefore turned international mining investors toward this “vast virgin land of ice and snow” [巨大冰雪处女地] (Song 2012, 25).

Song was particularly excited about Kvanefjeld, which he claimed was one of the world’s most important resources of rare earths.²⁴ It is not clear whether Song’s article brought Kvanefjeld to the attention of the Chinese government, or whether he was summarizing the Ministry of Land and Resources’s existing analysis. Either way, the Chinese state soon acted as he had recommended. Within three years of the publication of Song’s

²³ I am grateful to Ruofei Shen for contributing this observation.

²⁴ Song estimated that Kvanefjeld contained 10.33 million tons of rare earth oxides (including 370,000 tons of heavy rare earth oxides and 840,000 tons of yttrium oxide), 575.4 million pounds of triuranium octoxide (U₃O₈) and 2.25 million tons of zinc.

article, the Minister of Land and Resources had met twice with his Greenlandic counterparts, a Chinese state-controlled enterprise had invested in Greenland Minerals, and two other Chinese state-owned minerals firms had signed cooperation agreements to help develop Kvanefjeld. This is strong circumstantial evidence that the Chinese government understood and was persuaded by Song's climate geopolitics argument.

Song did not discuss the possibility that Greenlanders might oppose Chinese investments. He was persuaded that the government "strongly supports" foreign investment in the extractive sector because oil tax revenue could help Greenland "shake off [摆脱] its dependence" Denmark and the United States (Song 2012, 28). But in light of Greenland's small population and the vast international interest in the territory's natural resources, the new era of mining had arrived "regardless of what attitude the residents hold...or whether they are prepared," (Song 2012, 29). Song's argument was that Greenlandic elites would make sure the country followed its national interests, even if some of the populace was skeptical. He did not consider that Denmark might be opposed to, or that it might have the power to foil, Chinese projects. This would prove to be a major miscalculation, as is discussed in Chapter 7.

Soon after, He Jinxiang, another analyst at China's Ministry of Land and Resources, published a more detailed report about Kvanefjeld that elaborated on Song's arguments (He 2013). While Song had concerned himself with general questions of Greenland's suitability for mining investment from China, he systematically analyzed Greenland's institutional structures for managing mining, its natural resource development strategy, its relative reserves of various minerals, and the pros and cons for China of getting involved. After analyzing Greenlandic politics in detail, he concurred that there were good reasons for both

sides to partner up. “The Greenlandic government welcomes foreign investment, including investment from China,” he argued.

He described Greenland is an “ideal” [理想] investment destination for Chinese mining companies (He 2013, 60). Its advantages included good prospecting potential; good political relations between the two countries, a solid domestic Greenland mining industry, the centrality of mining to the Greenlandic economy [implying that the Greenlandic government might be easy to pressure once commercial relations were established], and favorable regulations and tax laws. However, the cons that he listed were formidable: cold weather, poor infrastructure, a few problematic laws and regulations, a limited domestic market for ancillary services, a lack of human capital, domestic political pressure for environmental protection, language problems, inconvenient transportation conditions, and a high cost of living. Due to these formidable obstacles, any major investment from China or any other foreign country was unlikely to be profitable at first. The calculation was that the benefits of partnership would compound over time, while many of the problems would fade as climate change progressed and political ties deepened. Greenland was “ideal” not because it was a lucrative short-term business investment, but because it was a sound strategic play in which China would likely face minimal competition.

After the Ministry of Land and Resources had established its interest in Greenland, other Chinese analysts began to flesh out a playbook for the state-linked companies that would make the first approach (Lu et al 2013).²⁵ Lu Wei argued that rare earths were the main reason that China should be interested in Greenland. The report claimed that Kvanefjeld

²⁵ The authors of this paper did not disclose institutional affiliations, yet the level of technical detail in their analysis suggested that they had geological training and were likely connected to a state research institute or think tank focused on critical minerals policy.

was the second-largest rare earths resource in the world after Bayan'obo in China, discussed the geologic formations at the sites and gave administrative details of how to apply for mining permits, all in exhaustive technical detail. Most of the dominant minerals in Greenland are those that are in short supply in China, Lu argued. As a result, there is a “strong complementarity” [有较强的互补性] between Chinese and Greenlandic interests (Lu et al. 2013, 55).

Lu et al. agreed that Greenland's politics and society were well-adapted to accept Chinese strategic investments, listing their reasons: “Greenland community relations are simple and easy to handle” [简单易处理] they boasted; labor policy is flexible, while Greenlanders mainly live in limited residential settlements, so most of the country is uninhabited; and Greenland's mining development can easily avoid the settlements, so it can greatly “economize on indigenous coordination costs” [节约原住民协调成本] (Lu et al. 2013, 56). Greenland's labor policies were flexible they added, so Chinese workers could be imported. This later proved to be a quite incorrect assumption that became the fatal flaw in the Kvanefjeld scheme.

Finally, Lu et al. borrowed Song's language about Greenland's “stable” legal system and noted that “political risk is low” [政治风险低] because China and Denmark have good relations (Lu et al. 2013, 55). In conclusion, they recommended that the Ministry of Land and Resources conduct due diligence on the key mining projects in Greenland, partner with the top local mining companies, and strengthen communication with the Greenlandic government. Even setting aside the geostrategic value of Greenland's rare earth resources for climate mitigation geopolitics, this was a clear-cut articulation of a climate adaptation geopolitics strategy. China would use geoeconomics tactics to execute its climate geopolitics

exploiting Greenland's desire to hedge economic dependence on Denmark as climate change progressed.

4.9 Calibrating expectations

China's investment forays into Greenland did not go as smoothly as these authors anticipated, as Chapter 7 discusses in detail. As these disappointments set in, Chinese analysts proposed various explanations and refined their analysis of climate geopolitics. Nevertheless, none rejected the basic premises of climate geopolitics that had attracted Chinese interest to Greenland in the first place.

China became aware that it faced bottom-up resistance in Greenland as early as 2013. When Greenlandic media first reported on the possibility of Chinese involvement in Kvanefjeld, the local community in the nearby town of Narsaq protested. The Kvanefjeld project was bogged down in years of delays, even though Greenland's national government supported the project. Chinese analysts played down the political risk because the Greenlandic government remained supportive, passing legislation to clear the way to the project receiving approval. Xu Qingchao of the Chinese Academy of Sciences boasted that if Kvanefjeld opened successfully, it would be a "major historic breakthrough" [重大的历史性突破] for China in the Arctic (Xu 2019, 71).

As late as 2018, even casual Chinese observers seemed convinced that both sides wanted to strike a strategic partnership. The clearest articulation of this view was an April 2018 op-ed in the nationalist tabloid *Guancha* titled: "Greenland Wants Independence but Is Too Poor? Expert: Let China Invest" (Lu 2018). At the end of the day, Greenlanders wanted independence more than anything else, the essay argued. "Most Greenlanders have no sense

of belonging to Denmark;” all six major Greenlandic political parties support independence; the only party opposing independence receives less than 3% in national opinion polls; and the challenge is that before independence is financially feasible, Greenland needs to resolve the practical problems that it “lacks the ability to fix itself” (Lu 2018). Greenland had pursued a strategy of “casting long lines to catch big fish” [放长线钓大鱼]: to attract Chinese investment in projects that could “slowly lay a solid economic foundation” for true independence (Lu 2018). The author’s analysis was in no way authoritative and leaned heavily depended on the assumption that many Greenlandic elites had made public statements favorable to China. Yet the crux of her argument was that Chinese and Greenlandic national interests clearly pointed it in the same direction. China was “the bankroller for which Greenland has longed so desperately” [望眼欲穿的“金主”]. Greenlandic Prime Minister Kim Kielsen’s visit to China the previous year was a “personal visit to solicit the ‘bankroller’” [亲自来到中国招徕“金主”]. The essay noted that Kielsen did not want Greenland to “fall out of Danish control only to become dependent on another country.” His plan was to “seek shelter” from various countries [分别仰仗不同国家的庇护] in the hope of preserving Greenlandic autonomy. In relative terms, however, Lu was arguing that Greenland wanted to realign (Lu 2018). While this essay did not necessarily represent the Chinese government’s strategic thinking, it captured the basic thrust of Chinese open-source commentary on the Greenland issue.

After Denmark intervened to shut China out of the Kalaallit Airports deal in 2018, Chinese analysts again had to recalibrate their assessments. It was now impossible to deny that Denmark intended to obstruct Greenland’s path to independence. “Denmark needs to maintain its ownership of Greenland to ensure its international status and influence” one

paper assessed (Shi and Zhou 2020).²⁶ Greenland is Denmark's "strategic hinterland" [战略腹地] and Denmark is a globally relevant country "largely because it possesses Greenland." This explained why Denmark has tried to solicit Chinese investments within its own borders, but "sensitive and resistant" [敏感和抵触] when it comes to China's separate relationship with Greenland (Shi and Zhou 2020, 32). "Denmark always tries to make Greenland slow down its development and make decisions in Denmark's favor" (Shi and Zhou 2020, 33–34). In short, Denmark's possessive relationship to Greenland is a domestic political reality that China had misjudged, and which it could not change.

However, Chinese commentators still believed that U.S. influence in the Arctic was declining. The U.S.–Denmark alliance is sustained by history and institutional inertia, but not necessarily an alignment of interests, Shi and Zhou argued. It was only due to American ideologically influence that Denmark was "prone to viewing China from a biased and entrenched position" [带着偏见站在固有立场上看待 中国] (Shi and Zhou 2020, 34). Pan Min and Xu Liling of Tongji University made a similar argument. Across the Arctic, the United States has "militarized and misinterpreted" China's activities to stir up "suspicion and concern in the international community" (Pan and Xu 2021, 98).²⁷ Li claimed that Washington had used its "international discourse power" to "ideologically infiltrate the Arctic governance process" and propagate a "China threat theory" (Li 2021). Shi and Zhou pointedly distinguish these "strategic perceptions" from "actual interests" [战略认知和...实

²⁶ Shi is Associate Professor at the School of International Relations, Beijing Foreign Studies University, and a Researcher at the Research Base for Chinese and Foreign Cultural Exchange in Beijing. Zhou is a Master's student in Nordic Languages and Literatures at Aarhus University, Denmark.

²⁷ Pan is a Professor at the Center for International Studies on Polar Regions and Oceans, Tongji University, and a specialist in Arctic geopolitics.

际利益] (Shi and Zhou 2020). This suggested that climate geopolitics may still allow China to drive wedges between the United States and its Arctic allies in the future.

The Chinese analysts did acknowledge that the Silk Road on Ice had an image problem. Li Zhenfu argued that China should address this problem by educating and disciplining Chinese actors to follow the party line when writing about the Arctic. “The inappropriate expression of Arctic concepts [by Chinese media sources] will lead to excessive interpretation and reporting by Western media, which will affect China’s image in the international community and put heavy pressure on international public opinion,” Li argued. He then described in great detail how China could pitch its claim to be a “near-Arctic state” in terms less threatening to foreigners. “We should regulate the expression of China’s Arctic perceptions and emphasize the scale of [non-threatening activities like] Arctic [scientific] research in order to reduce international skepticism,” he wrote (Li 2021). Shi and Zhou disagreed, arguing that China couldn’t change other people’s minds until it changed its own behavior “so that the ‘Silk Road on Ice’ [actually] benefits countries with prejudice against the ‘Silk Road on Ice’” (Shi and Zhou 2020).

Beyond this debate about public diplomacy, the Chinese commentators still expressed confidence that China would eventually get a foothold in the Arctic. The “Monroe Doctrine” that “dominates the status quo of Arctic governance” is unsustainable, Pan and Xu argued. It is in “contradiction” [矛盾] with the interests of non-Arctic states affected by Arctic climate change. Regional institutions like the Arctic Council were becoming “increasingly unsuited” to the changing regional balance. Pan and Xu recommended that China play a longer game, focusing on apolitical activities like scientific cooperation on climate change research and toning down its demands for a formal role in Arctic governance. “At the appropriate time,” a

low-profile organization like the Arctic Science Ministerial could “transform itself from a facilitator...to a decision-maker.”

These authors once again assumed that climate geopolitics operates according to neorealist principles. While public opinion may get in the way in the short term, states cannot stay perpetually misguided about where their interests lie. China’s best path to influence in the Arctic still runs through Russia and smaller polities like Greenland. Time is on China’s side because climate change is driving the “uncontrolled militarization” of the region by the United States and Russia, which will threaten “relatively weak” states like Denmark and Norway induce them to “cooperate” with “non-Arctic littoral states” like China. In the long run, the security “crisis” for Arctic small states created by a U.S.–Russia arms race “may be resolved by the active involvement of China” (Li 2021).

Accordingly, between 2019 and 2021, Chinese scholars went on to express even more confidence than ever about the prospects for integrating Greenland into the BRI. Writing in December 2020, Shi and Zhou of Beijing Foreign Studies University argued that China and Greenland are in a “good position to realize mutual benefits in the Silk Road on Ice” with “broad prospects for cooperation.”²⁸ China has been “making efforts” and “started in-depth cooperation” with Greenland in many areas, including energy, infrastructure, scientific research, and cultural exchanges. They also claimed that the Greenlandic government still has a “positive attitude toward cooperation with China” and is “actively absorbing Chinese investment” because it “wants to enhance its economic efficiency and self-governance”—a euphemism for independence from Denmark.

²⁸ Tellingly, the Chinese-language abstract of their article includes a line describing Greenland as “rich in resources and strategically important”—the accompanying English-language abstract omits this.

In conclusion, Shi and Zhou called Greenland a potential “strategic strong point” for China in the Arctic [战略支点] (Shi and Zhou 2020, 28). This was the first time an open-source Chinese document had used the term to describe Greenland, and it was a significant designation since the term has quasi-military connotations in Chinese usage (Kennedy 2019, Kardon 2020).²⁹ The 2013 book, *Science of Military Strategy*, published by Military Sciences Press, one of the People’s Liberation Army’s main academic publishing arms, defined strategic strong points as locations that provide support for overseas military operations or act as a forward base for deploying military forces overseas (Shou et al. 2013). In 2017, another military commentator called China’s military base in Djibouti the country’s first strategic strong point (Liu 2017). Other Chinese studies have listed the critically important military bases at Hawaii, Guam, and Diego Garcia as American strategic strong points (Li 2016, Yang 2016).

Strategic strong points are also used occasionally in internal policy discussions about the BRI to describe top-priority targets for investment and political focus (Du 2016). As Du Zhengai’s 2016 essay reveals: “because China’s human, material, financial and energy resources are limited,” it cannot invest equal attention and resources to all its Belt and Road partners.³⁰ Therefore, to achieve “high efficiency and low risk,” China should “carefully select strategic pivot countries to promote as a priority” and then “build lines to connect those points” [然后以点建线，以线带面]. China’s objective in strategic strong point

²⁹ 战略支点 is used interchangeably with the term 战略支撑点 in the Chinese strategic and military literature. Though it translates literally as “strategic pivot point” or “strategic fulcrum,” U.S. naval analysts prefer “strategic strong point,” language I also adopt.

³⁰ Du was Deputy Director of the Department of Academic Affairs at the Chinese Academy of Governance [国家行政学院], also known as the National School of Administration, an academy for mid- and senior-level government officials, located at Beijing and sponsored by the State Council. The Academy was merged with the Central Party School in 2018.

countries is to “achieve results as soon as possible” and “play a demonstration role” for other countries in the region. Its recommended methodology is based on political rather than economic alignment (Du 2016). Du writes that China’s goal should be to achieve “all-round strategic docking” [全方位的战略对接] in its strategic strong points. This is the same term Chinese commentators use to describe the policy alignment of the Belt and Road with Russia’s Eurasian Economic Union. “Docking” includes “strengthening policy tacit understanding and accelerating the integration of interests.” The term is not used lightly or for low-priority partner countries (Freymann 2020).

In conclusion, the deteriorating U.S.–China relationship and the emergence of climate geopolitics in the Arctic only strengthened the Chinese analysts’ belief that Greenland was an important potential partner. “Greenland is starting to speed up its independence process,” Shi and Zhou argued. It “urgently needs a stable and strong partner.” China’s big consumer market and its ability to provide “continuous, stable demand for Greenland’s exports”—fisheries and minerals, which are prone to volatile swings in price—are “in line with Greenland’s demand for an economic partner and with the strategic interests of the Greenlandic Home Rule Government.” Shi and Zhou also adopted the bargaining framework that Li and others developed in 2017–2019. “Greenland hopes to make progress towards independence in 2021,” they argue. “If it receives investment and economic strength through the Silk Road on Ice cooperation, it can increase its negotiating capital with the Danish government on the issue of independence [便能增加其在独立问题上与丹麦政府的谈判资本] and thus accelerate the independence process” [快其独立进程].

4.10 Assessing the Chinese sources

In theoretical terms, the Chinese open-source literature about Greenland from 2012 to 2021 was almost entirely a structural realist debate about the geopolitical implications of climate change in the Arctic and how China should adapt to this new reality in order to outmaneuver its rivals (Wu 2021). The basic assumption was that as global warming proceeds, geographic changes in the Arctic will open up opportunities for shipping and mining, affecting the interests of countries in the region, and creating new drivers of tension and cooperation. Against the background of such a “complex and diversified international environment,” China needs a “rational judgment and understanding of the complex situation” in the Arctic and the “intertwined interests of various parties” (Shi and Zhou 2020, 35). In other words, China needed better intelligence about the domestic politics and policy formation processes of the countries in the region, and it needed to think analytically about how these might interact in the future with the secondary and tertiary effects of climate change.

Yet, for all their pragmatism, these Chinese analysts were strikingly bad at predicting how Greenland, Denmark, and the United States would behave under climate geopolitics. Year after year, they were far too confident about their country’s prospects for gaining a foothold in the Arctic, failing to predict the failure of all three major Chinese infrastructure deals considered in this paper: Grønnedal, Kalaallit Airports, and the Kvanefjeld mine. Subsequent chapters will argue that this is largely because Chinese Arctic experts lacked a rich empirical understanding of the key regional players’ domestic politics. Instead, they relied on overdetermined theoretical models of those countries’ decision functions, assuming that Greenland in particular would follow its supposed national interests despite clear signs

that the local population disagreed. Groupthink, circular citation, and wishful thinking may also led this debate astray.

The biggest failure of China's analysis was its underestimation of the United States. It took Washington several years to recognize that climate change in the Arctic was fundamentally a geopolitical question that would intensify great power competition. Chinese commentators realized by around 2016 that Washington had no intention of welcoming China into the Arctic, it gravely underestimated Washington's ability to use its political relationships to outmaneuver China's commercial bids. By 2019–2020, Chinese commentators tacitly admitted that they had underestimated the United States' ability to get back in the game, mainly because it underestimated Washington's ability to use its “discourse power” to persuade Canada and the Nordics to align with its “China threat theory.” And yet, as the present research's study period drew to a close in spring 2021, they remained blithely confident about the inevitability of U.S. decline, perhaps setting themselves up for more negative surprises.

The Chinese analysts who sought to orchestrate a “strategic docking” between China and Greenland also erred by disregarding the nuances of Greenlandic and Danish domestic politics. They were too willing to take media reporting about the immediacy of Greenland's independence movement at face value, to downplay the depth of the cultural and personal links connecting Greenland and Denmark, to overestimate Greenlandic voters' and politicians' tolerance for geopolitical risk, and to underestimate the importance of local issues, such as fears of environmental degradation caused by rare earths mining. After the Chinese bidder was forced out of the Kalaallit Airports deal, Chinese scholars blamed Copenhagen and Washington for “interfering,” when the truth was that the Greenlandic

government—as Chapter 8 presents—had willingly acquiesced. Similarly, the Greenlandic public unequivocally rejected the Kvanefjeld mine in April 2021 after nearly a decade of public debate. If the Chinese sources had engaged more with empirical data, such as interviews and surveys of Greenlandic public opinion rather theoretical analysis, they may have better anticipated these outcomes.

4.11 Conclusion

This chapter has argued that Chinese Arctic experts and policy analysts have developed a flawed but sophisticated concept of how future climate change might interact with geopolitics. They have applied this analysis to the superpower rivalry with the United States and to China’s relationships with several small states in the Arctic, particularly Greenland. This discourse of unofficial open-source materials can be read as a sampling of Chinese elite views, as a window into the formation of China’s Arctic policy, and as a regional and country-level case study of how China plans and executes investments to achieve geostrategic objectives in small states. I have shown that the variations between individual scholars’ views reveal many useful insights, but the fact that they agree on one big idea—the overall geopolitical opportunity of Arctic climate change—is striking and significant.

Chinese elite commentators see the Arctic in general, and Greenland in particular, as a “strategic new domain” shaped by the anticipation of future climate change. China became steadily more interested in Arctic geopolitics over the course of the 2010s. It determined that its short-term interests were to collaborate with Russia against the United States, but that the best long-term strategy would involve striking partnerships with small Arctic states and near-

states such as Greenland that could serve as “strategic fulcrums” or “strong points” [战略支点]. Not until 2019, did Chinese analysts acknowledge that the United States was determined to compete aggressively to deny China access to the Arctic—and may have the tools to do this successfully in the short term. Yet they remained extremely confident about China’s long-term prospects for influence and access in the Arctic, assessing that the United States is a declining power that is failing to respond effectively to the emerging geopolitics of climate change.

These analysts rarely discussed climate change head-on, but the inevitability of climate change is the fundamental assumption on which all their other analysis is based. They accept climate change as an “undisputed fact” and predict that it will impact the Arctic before other regions of the world, in line with IPCC projections. Arctic climate change is likely to impact Chinese security both directly and indirectly, through a “series of global reactions.” The commentators argued that these factors are, on balance, advantageous for China, since it creates an opportunity for China to gain a seat at the table in a “strategic new domain”: the melting Arctic.

At first, Chinese analysts saw few risks and downsides to this strategy. The United States was a declining power while Russia was increasingly interested in cooperating and several small polities, particularly Greenland, seemed interested in exploring a partnership. Over the course of the decade, Chinese scholars became increasingly confident that climate change would open the region to commercial shipping, mining, fishing, and naval operation, making it increasingly important for Chinese interests. At the same time, they assessed that the United States would seek to block China from acquiring a formal role in Arctic regional governance and a base of operations in the region. The best way to work around U.S.

opposition was to cultivate relations with smaller Arctic states through geoeconomics tactics, including infrastructure investments, scientific cooperation, and public diplomacy spearheaded by private Chinese businesses at the behest of the state.

As it became clear that the United States would push back strongly, including by propagating a “China threat theory,” Chinese scholars began to explore stealthier tactics. They advised paying more attention to public opinion management, discourse, strategic perception in the region’s small states. Xiao highlighted Greenland and Iceland as China’s two most promising potential partners, since their interests inclined them to partnership with China even though both were temporarily misguided by American propaganda. Other scholars recommended using private businesses to make initial contacts with Arctic states to play down China’s geopolitical intentions or pursuing scientific research cooperation as an entry point for deeper cooperation in the future (Shi and Zhou 2020).

Greenland was given pride of place in this analysis, both because of its resource wealth, which is expected to emerge as the region’s geography changes, and because its burgeoning independence movement presumably inclined it to partner with China. In 2019, even after China was blocked from the Kalaallit Airports deal, Chinese analysts argued that Washington was fighting a “losing battle against the Tao” [反者道之动] as Greenland had learned that it could use the threat of cooperation with China to “obtain bargaining chips” to use in future negotiations with the United States and Denmark (Guo and Yang 2019).

The analysis in this chapter also informs the broader debate about how Chinese experts and Communist Party elites analyze and weigh the risks, costs, and opportunities of climate adaptation. This chapter has shown that at least one community of Chinese academics and government analysts takes a cynical and opportunistic view of climate adaptation, arguing

that China can potentially exploit it by striking geoeconomic partnerships with strategically located small states such as Greenland that are exposed to dramatic climate impacts. Beyond the Greenland case, this finding has significant implications for the global U.S.–China rivalry and for climate negotiators who seek to better understand China’s intentions and possible fallback plans if no global emissions deal is reached.

CHAPTER 5

Climate Geopolitics in the United States' Arctic Strategy

5.1 Introduction

This chapter traces the American policy debate about Arctic climate geopolitics and China between 2009 and 2021. It argues that by 2018 a striking and underappreciated elite consensus had emerged about the nature of the strategic challenge and the necessary policy response. The Democratic and Republican parties strongly disagree about climate mitigation policy and use different rhetorical strategies to talk about climate geopolitics in public. However, elected and administrative officials from both parties broadly agree that climate adaptation is a matter of national security, as do senior officials from the military and intelligence communities.

For the Democratic party, this chapter recounts a process of incremental acceptance that climate security is fundamentally interconnected with great power competition, due largely to changing perceptions of China and its intentions in the Arctic. The Democrats were the first party to characterize climate change as a national security issue. The Obama administration and Democratic members of Congress repeatedly expressed concern that climate change would drive migration, political migration in fragile states, natural disasters, and public health crises. Democrats argued that the United States had an interest in forestalling these risks by prioritizing climate mitigation at home and abroad. Connected to this assessment, they downplayed the potential economic opportunities that future climate change might create in the Arctic and resisted narratives that climate change was connected to geopolitics. By the latter stages of the Trump administration, however, several influential congressional Democrats had concluded that Russia and China were strategically interested

in the Arctic for climate geopolitics reasons. By the time the Joe Biden administration took power in 2021, most Democrats had broadly accepted that great power competition was a key issue in the Arctic, and that China's outreach to Greenland was a climate geopolitics strategy hostile to U.S. interests, though most still advocated negotiating with China on a potential climate mitigation deal to replace the Paris Agreement. Biden's administration formulated and institutionalized a whole-of-government climate geopolitics strategy, focused both on domestic resilience and great power competition.

Republican thinking began in a very different place but evolved in a similar direction—toward a recognition that climate change is already indirectly affecting U.S. national security. At first, most senior Republicans denied the existence of anthropogenic climate change, let alone characterizing it as a security issue. On taking power in 2017, the Trump administration scrubbed all mentions of the term “climate change” from U.S. federal government websites and instructed officials to use euphemisms such as “environmental shifts” instead. When discussing Arctic security policy, Republicans acknowledged that the region is rapidly warming, but they characterized this as a structural fact that the United States must accept and to which it must adapt. As Secretary of Defense James Mattis put it during a testimony to Congress in 2017, “it” [climate change] “is simply part of the broadening appreciation of the situation that we confront” (U.S. Government Publishing Office 2018). Senate and House Republicans put this in climate geopolitics terms, arguing that emissions deals were doomed to fail because China and Russia will not comply, so expending resources to cut emissions and mitigate the effects of climate change would give America's adversaries a competitive advantage. However, as Republicans came to appreciate

China's climate geopolitics strategy, they concluded that the United States did need a policy to compete—by focusing on adaptation, as well as mitigation.

The two parties' approach to climate geopolitics began to converge around 2018, the same year that U.S.–China competition in Greenland reached its climax. While the issue remained highly partisan throughout the period studied, by the early Biden administration elected officials from both parties expressed a common growing concern that the United States had been late to recognize the emergence of climate politics, and that failure to catch up to China and Russia in the Arctic would have adverse strategic consequences. Experts from across the military and intelligence community seemed to agree. Eventually, both parties came to favor a common slate of policy goals to improve American competitiveness within the climate geopolitics arena, including by expanding the U.S. icebreaker fleet, allocating funds to make Arctic infrastructure more resilient, and increasing diplomatic attention and public diplomacy in the Arctic, particularly in Greenland, and to climate-exposed small island polities more generally. I show this through official documents, congressional testimony, think tank reports, and interviews with former senior officials.

5.2 Greenland's place in U.S. Arctic strategy

Since 1940, the United States has recognized the Arctic, and Greenland in particular, as geographic buffer regions for the defense of North America (Dansk Udenrigspolitisk Institut 1997). Greenland is sparsely populated and physiographically part of the North American continent. It sits astride the Greenland-Iceland-United Kingdom (GIUK) gap, the sea lane connecting the Central Arctic Ocean to the North Atlantic. During World War II the U.S. military used Greenland to convoy troops and materiel to the European theatre and

developed cryolite mines on the southern coast to support production of aluminum for the Allied war effort. By wiping out the German weather stations in Greenland, the United States also gained an advantage in meteorological data collection in the North Atlantic, which helped the war effort in numerous ways, including the effort to crack the German “Enigma” code and the planning of D-day (Gjerstad and Rogers 2021). In 1946, the U.S. Joint Chiefs of Staff named Greenland and Iceland as two of the three essential overseas bases of outstanding importance in defending the homeland and the supply lines to Europe (Petersen 2011).

The U.S. military has retained a presence in Greenland ever since. Thule Air Base in northern Greenland is the United States’ northernmost military installation. In the Cold War it supported U.S. Strategic Air Command. It is also important for missile defense and early warning radar systems, since the shortest air routes and ballistic missile trajectories between Russia and the continental United States pass over Greenlandic territory. As General Terrence J. O’Shaughnessy testified to the House ASC in May 2019, “Putting yourself in the Russian position...if you were going to attack North America, [the Arctic] would be the avenue that you would likely choose” (House ASC 2019).

Thule is just one piece of a broader U.S.-dominated security order in the Arctic. Five of the eight circumpolar states—the United States, Canada, Norway, Denmark, and Iceland—are NATO allies that guarantee each other’s security, share intelligence, conduct joint exercises, and build interoperable forces. Sweden and Finland are not formal members of NATO, but their cooperation with the alliance has steadily deepened in recent years (Wieslander 2019, Duxbury 2020). For decades NATO also maintained another air base at

Keflavik, Iceland, but this closed in 2005. Today Greenland's geographic position makes it the linchpin of the U.S. security posture in the Arctic.

Greenland's strategic geographic position holds the U.S.-Denmark alliance together but is also an irritant in their bilateral relationship. In 1946 President Harry Truman offered to buy Greenland from Denmark for \$100 million in gold. Denmark declined but signed a bilateral security treaty that authorized Washington to build defense installations in Greenland without prior approval (Defense of Greenland 1951). Danish security experts have long been wary about U.S. influence in Greenland. In 2004 U.S. Secretary of State Colin Powell traveled to Igaliku, Greenland to sign a new agreement giving Greenland a greater formal role in the U.S-Denmark security partnership. Danish Foreign Minister Per Stig Moller arrived late, so Powell met him on the tarmac. "Welcome to the 51st state of the United States of America," Powell joked (Mouritzen and Kruse 2019). Following the Igaliku Agreement and 2009 self-government referendum, Greenland gained a formal seat at the table when the United States and Denmark discussed security affairs related to it. However, both legally and practically, Denmark managed the security relationship with the United States on Greenland's behalf.

During the Cold War, the U.S. military's activities in Greenland periodically evoked resentment and organized resistance in Denmark and Greenland. In 1959, without consulting the Danes, the United States launched "Project Ice Worm," a scheme to conceal a survivable force of mobile launchers and six hundred nuclear weapons in a tunnel system under the Greenlandic Ice Sheet. The project was aborted in 1966 due to unstable conditions under the ice sheet, and the vast complex was abandoned (Petersen 2008). When the project came to light, Danish and Greenlandic officials were displeased—not only because they had not been

consulted, but also because the Americans had contaminated the site with nuclear waste (Nielsen and Nielsen 2021). In 1968 a U.S. Air Force bomber crashed off the coast of Greenland, scattering its payload of nuclear weapons. Some were never recovered from the sea floor, galvanizing a burgeoning anti-nuclear movement in Greenland that would re-emerge decades later to oppose the Kvanefjeld rare earths mine.

Starting in 1987 the Soviet Union began to scale down its Arctic naval operations; as the region became more geopolitically stable, NATO began to divert attention and resources elsewhere. In 2006 the United States handed over its facility in Keflavik to Iceland to manage. In 2005 the U.S. Navy's "stood down" the Second Fleet from attack positioning in the North Atlantic. In 2011, it disbanded it altogether, citing the "end of the Cold War and the diminished threat from Russia" (Brokaw 2019). A debate emerged in Greenland and the United States about what advantages the Thule base still provided to NATO, and whether Greenland still needed U.S. security protection (Saitou 2019). The U.S. military's 2015 decision to cancel its maintenance contract with a local Greenlandic business, and replace it with a Danish contractor, for a tiny cost saving, indicated that Washington was not focused on winning the hearts and minds of the local population (Takahashi 2019).

After the Cold War, multilateral institutions rose in prominence and became the dominant structures in Arctic regional politics. Chief among them was the Arctic Council, founded in 1996. All eight countries with sovereignty over lands north of the Arctic Circle—Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States—are members of the Arctic Council. There are also a dozen non-voting "observer" states, including China. The eight member states hold a rotating presidency, maintain a permanent headquarters in Tromsø, Norway, and hold biannual ministerial meetings. The Council's

administrative powers are circumscribed: it has no direct authority in itself but serves as the principal forum for regional governance. According to its founding charter, the Ottawa Declaration, “The Arctic Council should not deal with matters related to military security” (Declaration on the Establishment of the Arctic Council 1996). As long as the region was stable, however, as it was from the mid-1990s through the mid-2010s, this arrangement was satisfactory to all of the regional powers, including the United States. (In March 2022, the Arctic Council was effectively disbanded, as Russia held the rotating chairmanship and all seven other members condemned the invasion of Ukraine.)

The primacy of the Arctic Council was codified in 2008 with the Ilulissat Declaration, in which the five coastal states of the Arctic Ocean—the United States, Russia, Canada, Norway, and Denmark representing Greenland—agreed on a long-term framework for governing the Arctic Ocean as it is gradually transformed by climate change. “The Arctic Ocean stands at the threshold of significant changes,” the Ilulissat agreement read. “Climate change and the melting of ice have a potential impact on vulnerable ecosystems, the livelihoods of local inhabitants and indigenous communities, and the potential exploitation of natural resources.” This would implicitly create governance challenges that could not be adequately hashed out using the Arctic Council framework. However, the five parties agreed that there was “no need to develop a new comprehensive international legal regime to govern the Arctic Ocean” (Ilulissat Declaration 2008). This was, in essence, a collective agreement of the five most militarily powerful Arctic states to deny all non-Arctic states—including China—any formal role in regional governance.

In 2017 the U.S. military began active planning to modernize its Arctic facilities, largely in response to Russian militarization of its northern coast. In 2018 it re-established

the Second Fleet. The new commander, Vice Adm. Woody Lewis told reporters that these measures were necessary because “with the opening of waterways in the Arctic, traffic will only grow” (LaGrone 2019). This hinted that the Arctic’s geography was about to change materially due to climate change, and that this would have geopolitical consequences. In 2019 the Trump administration transferred primary responsibility for Thule from the Air Force to the newly created United States Space Command. In 2020 the Air Force and Space Force announced that they planned to invest in Thule and other Arctic infrastructure, both to improve resilience to changing climate conditions and to modernize their surveillance and communications infrastructure, also known as C4ISR.

The United States government has made no public planning and offered no commentary about how Greenland’s move toward independence might affect its operations in Thule. In Canada, however, a close Arctic ally of the United States, analysts have been slightly more attentive to the geopolitical implications of an independent Greenland. After Greenland becomes formally independent, it “may lack the regulatory oversight of a developed state,” one Canadian defense analyst wrote. “With weak institutions in place, a ‘resource curse’ could make the island ripe for Chinese exploitation” (Lackenbauer et al. 2019).

In sum, Greenland is an essential component of U.S. security in the Arctic. Losing access to or influence over Greenland would be highly detrimental to U.S. interests. However, whether the U.S. military has not made public any scenario planning that considers what Greenlandic independence might mean U.S. interests and capabilities. Instead, U.S. strategic thinking about Greenland is expressed indirectly in the country’s broader regional and thematic policies—toward Russia, China, NATO, and climate change. The following

sections trace that discourse in more detail, with a focus on U.S. government reports and congressional testimony.



Map Source: National Geospatial-Intelligence Agency

SAMPLE OF ARCTIC REGION MILITARY FACILITIES



Figure 1 – Department of the Air Force Equities in the Arctic³¹

5.3 Before climate geopolitics: 2009–2013

³¹ Department of the Air Force, “Arctic Strategy,” July 21, 2020.

In 2009 U.S strategic interest in the Arctic was at a low ebb. Days before leaving office, President George W. Bush issued a National Security Presidential Directive (NSPD-66) on “Arctic Region Policy.” The report was remarkable both for what it said and for what it did not say. On the one hand, it contained eight separate references to “climate change.” “Sea ice and glaciers are in retreat,” it assessed. “Permafrost is thawing and coasts are eroding. Climate change and other factors are significantly affecting the lives of Arctic inhabitants, particularly indigenous communities.” However, NSPD-66 cautioned that “high levels of uncertainty remain concerning the effects of climate change and increased human activity in the Arctic.” With that caveat, it recommended further study before taking policy action to adapt to climate change (White House 2009).

NSPD-66 indicated no concern that climate change would lead to security threats or intensify geopolitical competition in the Arctic. It characterized relations with Russia as stable. It did not mention non-Arctic states, such as China, at all. The report’s only reference to security was a brief discussion of America’s “vulnerability to terrorism in the Arctic region.” This it deemed a “fundamental homeland security interest.” While the report admitted to “a growing awareness [worldwide] that the Arctic region is both fragile and rich in resources,” it did not propose a policy response (White House 2009). In short, the outgoing Bush administration saw climate change as a scientific and environmental phenomenon—but not a geopolitical one.

The incoming Obama administration thought that Arctic climate change had broader security implications. When Secretary of Defense Robert Gates, a Bush administration holdover, testified before the House Armed Services Committee after the inauguration in January 2009, multiple Democrats asked him what the new administration would do to

follow up on NSPD-66. Gates responded that “increased Arctic access stemming from the effects of climate change, coupled with the promise of resource discovery, portends a greater frequency of human activity throughout the region.” The Defense Department “will have to address the consequences of increased human activity, and the security and environmental challenges it will bring,” he added. These challenges included “increased competition for use of Arctic resources and sea lanes.” However, Gates did not say that he planned to make any specific policy changes to meet this emerging challenge. Nor did he use the word “geopolitics” (House Armed Services Committee 2009a, 65).

The Obama administration discussed climate security frequently, but usually in vague terms. Their most common claim was that climate change would increase “tension” or “instability” worldwide. For example, a 2010 Pentagon study on the “Joint Operating Environment” named climate change as one of ten long-term security threats, alongside pandemics, globalization, cybersecurity, and demographic changes (United States Joint Forces Command 2010). That report’s discussion of climate change was mostly concerned that drought, food supply disruptions, refugee crises, and political strife could destabilize weak states in regions like the Middle East. It did note that Arctic ice melt “may raise tensions between Arctic nations” about maritime territorial claims and the “designation of important new waterways,” but this was hypothetical (United States Joint Forces Command 2010, 32).

Thus, even though climactic changes in the Arctic were more extreme than in other parts of the world, the Obama administration did not treat the region as a high priority in its security planning. Obama let the Bush administration’s Arctic Strategy, NSPD-66, stand until 2013. His Defense Department did not order any major investments to adapt U.S. military

infrastructure in the region. Nor did it investigate what role the U.S. could play in extracting these new resources or opening up the “important new waterways” Gates had mentioned in his testimony. The Obama administration’s view was that the Arctic mattered for climate security mostly because ice melt there would indirectly aggravate risks elsewhere.

Congressional Democrats, by contrast, were concerned that the United States needed to do more to adapt to climate change in the Arctic specifically. The House ASC’s 2009 report accompanying the annual National Defense Authorization Act, the main annual defense funding bill, said it was “concerned” that the Department of Defense was not doing adequate planning about the “implications and potential consequences of global climate change” for national security. It directed the Department of Defense to produce a report assessing “strategic national security objectives and restrictions in the Arctic Region,” the “basing infrastructure required to support Arctic strategic objectives, including the need for a deep-water port in the Arctic,” and “the status of and need for icebreakers” (House Armed Services Committee 2009b). Citing data from the Navy, congressional Democrats observed that polar ice coverage had decreased by 67% since 1979 and that the Arctic Ocean was projected to be ice free for short periods of time starting in the year 2038. They noted that the opening of a Northwest Passage and the potential emergence of trans-Arctic trade routes was “one of the possible benefits associated with climate change” that the United States could potentially enjoy (House Armed Services Committee 2009b, Title IX).

The Obama administration did not posit a link between climate change and great power competition, nor did it engage with the possibility that climate change could create strategic opportunities for the United States. Its first National Security Strategy (NSS), a key document that would orient the administration’s foreign policy over the next five years,

mentioned China only ten times, mostly positively. “We will continue to pursue a positive, constructive, and comprehensive relationship with China,” the NSS read, adding that “we welcome a China that takes on a responsible leadership role” (White House 2010, 43) By contrast, it mentioned climate change 23 times, almost exclusively negatively. “The danger from climate change is real, urgent, and severe,” it argued. “The change wrought by a warming planet will lead to new conflicts over refugees and resources; new suffering from drought and famine; catastrophic natural disasters; and the degradation of land across the globe. The United States will therefore confront climate change based upon clear guidance from the science, and in cooperation with all nations” (White House 2010, 47). Acting on this analysis, the Obama administration then sought to rally public and international buy-in for a climate change mitigation deal, which it hoped would include China. In this context, it calculated that adapting to Arctic climate change opportunistically, in ways that would antagonize other large emitters, would be counterproductive.

The 2010 NSS also reaffirmed that the Obama administration was satisfied with the geopolitical status quo in the Arctic. “The United States is an Arctic Nation with broad and fundamental interests in the Arctic,” it stated, in its single anodyne paragraph about the region. “We seek to meet our national security needs, protect the environment, responsibly manage resources, account for indigenous communities, support scientific research, and strengthen international cooperation on a wide range of issues” (White House 2010, 50). There was no suggestion that Arctic climate change could create geopolitical opportunities for the United States or any other country. There was no mention of the Northern Sea Route or the potential need to build new deep sea ports, icebreakers, or other Arctic capabilities. New natural resources would emerge as the ice melted, it noted. But these should be

“responsibly manage[d]” — not “exploited,” as the Trump administration would later advocate.

5.4 Early premonitions: 2013–2016

By the start of Obama’s second term, his administration’s views had evolved. In May 2013 the White House released a new National Strategy for the Arctic, replacing the Bush-era NSPD-66 (White House 2013). For the first time, the administration tacitly acknowledged that climate change was changing Arctic geopolitics and that the United States would have to adapt. For now, the Arctic is “peaceful, stable, and free of conflict,” the document assessed. But “the Arctic is changing...Even as we work domestically and internationally to minimize the effects of climate change, the effects are already apparent.” Accordingly, “adaptive strategies” were necessary “to protect [American] interests” (White House 2013). In other words, climate mitigation and adaptation were not mutually exclusive. The United States would have to do both.

Clearly, climate change in the Arctic still offered tantalizing commercial opportunities for U.S. businesses. By 2013, the “supercycle” in the price of oil and industrial metals had driven oil and mining companies into frontier markets and justified expensive and risky new investments. The 2013 National Strategy for the Arctic acknowledged this reality far more explicitly than before. It cited studies that, given the high commodity prices at the time, the Arctic could contain 30% of the world’s undiscovered gas resources, as well as “vast quantities of mineral resources, including rare earth elements, iron ore, and nickel.” These estimates have “inspired fresh ideas for commercial initiatives and infrastructure development in the region,” it noted (White House 2013).

Yet the new National Strategy pointedly did *not* advocate seizing these opportunities. In fact, it characterized them as costly and risky. “Ocean resources are more readily accessible as sea ice diminishes,” it noted, but on the other hand, thawing permafrost is “threatening communities” and “hindering...access to resources.” Furthermore, an “undisciplined approach to exploring new opportunities in this frontier could result in significant harm to the region, to our national security interests, and to the global good.” Notably, the report also declined to say that the United States should develop the Northern Sea Route. These arguments reflected the Obama administration’s concern that developing Arctic oil and gas might create a scramble for resources that would complicate the more urgent project of climate mitigation. The report acknowledged that there was a risk that climate change could accelerate geopolitical competition in the Arctic. “A growing number of non-Arctic states and numerous non-state actors have expressed increased interest,” it read (White House 2013). But it did not elaborate on their intentions, or on how their activities might affect U.S. national security.

Meanwhile, Congress remained concerned about the Navy’s readiness to operate in an increasingly navigable Arctic Ocean. In a statement attached to the 2014 NDAA, the Armed Services Committee wrote that it “continues to be concerned about the Department of Defense’s resources and preparedness for accessing, operating in, and protecting national interests in the Arctic” (House Armed Services 2013). It noted that “the Navy currently estimates that between 2020 and 2030, the Arctic could be ice free for one month during the summer which may lead to an increase in trans-Arctic passage.” Without “seeking to militarize” the region, Congress directed the Secretary of the Navy to develop a plan that would allow for “increased operations” between 2020 to 2030.

The Pentagon's response, in essence, was that it had no plans to make the investments Congress was asking for (Department of Defense 2013). "Projections about future access to and activity in the Arctic may be inaccurate," the Department countered. "Significant uncertainty remains about the rate and extent of the effects of climate change, including climate variability, in the Arctic. There is also uncertainty about future economic conditions, and the pace at which human activity will increase in the region. The challenge is to balance the risk of having inadequate capabilities or insufficient capacity when required to operate in the region with the opportunity cost of making premature and/or unnecessary investments" (Department of Defense 2013, 12). No new bases or capabilities such as icebreakers would be necessary through 2020, it concluded.

This Pentagon assessment illustrated how climate geopolitics is about both geography and the heuristics and uncertainties that policy makers use to understand the speculative possibilities of geography. Congress and the Pentagon agreed about the direction of geophysical climate change in the Arctic. They also agreed that these changes would make the region more navigable, ultimately creating new possibilities for security problems. Yet they attached different values to their uncertainty about the "rate and extent of the effects of climate change" on the region's geography, and therefore arrived at conflicting policy recommendations.

This report showed that the Pentagon understood the key features of climate geopolitics. First, because Arctic climate change was a gradual process, and the speed of change was uncertain, the question of how fast to adapt was open for debate—even if the eventual need to adapt was not. Second, the fact that climate change was altering the region's geography did not by itself mean that the United States needed to change its policy. That

would depend on how other regional actors responded. Third, the Pentagon was aware that rival actors were observing it for signals of intent, just as it was observing them. Adapting too “aggressively” to Arctic climate change, the report argued, would provoke and antagonize Russia. This would presumably lead Russia to make new investments of its own, which would force the United States to devote even more resources to the region down the road. As an alternative, the Pentagon planned to invest in “domain awareness” systems such as sensors and satellite tracking. It also promised to practice “transparency” about its future investments and policy shifts. “Being too aggressive in taking steps to address anticipated future security risks may create the conditions of mistrust and miscommunication under which such risks could materialize,” the report cautioned, in an obvious reference to Russia. “There is some risk that the perception that the Arctic is being militarized may lead to an ‘arms race’ mentality” (Department of Defense 2013).

The arms race happened anyway. As U.S.-Russia relations broke down over Ukraine, U.S. military officials expressed increasing concern that Russia was seizing an advantage in militarizing the Arctic. In April 2015, General Philip Breedlove, Commander of United Forces Europe, testified before the Senate ASC about Russia’s “increasingly troubling...behavior,” which included “stationing military forces, building and reopening bases, and creating an Arctic military district to counter an imagined threat [from the United States]” (Breedlove 2015).

Compared to Russia, senior military officials characterized China as less of a threat in the Arctic. As Admiral William E. Gortney, Commander of United States Northern Command, told the House ASC in March 2016, Russia was “the only foreign military threat that could imperil our nation’s existence” (Senate Armed Services Committee 2016). China

was a long-term rival on a global level, he argued, but Beijing lacked the interest and capability to threaten U.S. security interests in the Arctic. Rather, China's strategy, "appears to be focused on limiting U.S. options by denying physical and political access in key regions around the globe." The Arctic, by implication, was not one of these "key regions." The Department's next report to Congress on its Arctic strategy, in December 2016, elaborated on Gortney's arguments. It mentioned Russia twenty-five times and China only once—in a list of eleven "non-Arctic states" that wanted to "increase their influence in the region and safeguard their ability to access potential resources and transit routes" (Department of Defense 2016).

Since the Arctic arms race with Russia was fundamentally about nuclear deterrence, Gortney concluded that "large fundamental infrastructure investments are not required to establish a large physical presence" in the region. In this "vast, harsh, and challenging operating environment," building military infrastructure is an "extremely costly proposition," he argued. Estimates ran from three to ten times the cost of building comparable facilities elsewhere. Limited by budget constraints, and without any immediate threat, the Department would be better served by investing in "scalable infrastructure"—smaller and cheaper facilities that could be expanded quickly in the future.

Gortney's drew on climate geopolitical logic to make the case. The Arctic is an "emerging region," he said, in the sense that "climate change and receding polar sea ice in the Arctic combined with global interest in emerging economic opportunities and an increase in human activity pose unique security challenges" (Senate Armed Services Committee 2016). It would be reasonable to infer from Gortney's remarks that climate change made this new era of competition with Russia fundamentally different from the Cold War. The United

States should therefore tread cautiously. An uncontrolled arms race in the Arctic would not serve any country's interests. Therefore, if America practiced restraint, perhaps Russia would do the same, since it too would prefer to use its resources elsewhere.

In 2015 and 2016 the U.S. military assessments of China grew more guarded, amidst concerns about developments in the South China Sea. General Vincent R. Stewart, director of the Defense Intelligence Agency testified to the House Armed Services Committee in March 2016 that “China presents itself as a peaceful rise to regain its status on the international stage. We are not so certain that that rise will be peaceful because of some of the things that it is doing in the Pacific and globally (House Armed Services Committee 2016). As the Obama administration left office in January 2017, China was rapidly emerging as the United States’ most capable geopolitical rival, but the U.S. government had articulated the link between climate change to superpower competition. With the arrival of the Trump administration, this was about to change.

5.5 “Great power competition”: 2017–2018

The Donald Trump administration that took power in January 2017 changed U.S. strategic doctrine on these issues in two important ways. First, it instructed U.S. government agencies to remove explicit references to the term “climate change” from official documents, even ordering federal reports on climate change from previous administrations to be removed from the Internet (Waldman 2018). The administration’s National Security Strategy, released in full in 2018, mentioned China thirty-three times but did not mention climate change at all.

Second, the Trump administration’s first NSS declared that long-term, strategic competition with “revisionist powers” was the preeminent threat to American national

security (White House 2018, 1). The document, authored primarily by National Security Advisor H.R. McMaster and his deputy, Nadia Schadlow, argued that China and Russia seek to “challenge American power, influence, and interests, attempting to erode American security and prosperity. They are determined to make economies less free and less fair, to grow their militaries, and to control information and data to repress their societies and expand their influence” (White House 2018, 2). The Trump NSS made headlines because it was much more hostile to Russia than President Trump himself. But the key policy shift it introduced was the explicit acknowledgement that the United States was engaged in a comprehensive and global rivalry with a peer competitor: China.

The Trump administration believed that China’s geoeconomic diplomacy, its activities in the South China Sea, and its Arctic investments were all linked to a long-term grand strategy to degrade and ultimately replace U.S. global leadership. The NSS labeled China a “strategic competitor.” It claimed that China uses “unfair” trade practices, intellectual property theft, and “predatory economics” to “intimidate its neighbors” and violate international law in the South China Sea. It also obliquely referred to the Belt and Road Initiative and China’s commercial diplomacy, noting that “China and Russia target their investments in the developing world to expand influence and gain competitive advantages against the United States. China is investing billions of dollars in infrastructure across the globe,” it argued, “state-directed investments, which often leave developing countries worse off” (White House 2018, 38). The Trump strategy appeared to be to name and shame China for this bad behavior, impose costs on China directly through bilateral channels, and communicate to the rest of the world that the United States “provides an alternative.”

U.S. federal agencies were expected to defend and execute the Trump administration's NSS, which formally denied the existence of climate change. Yet many senior military officials, as we have seen, had already commented extensively on climate security in testimony to Congress during the Obama years. Congressional Democrats tried to spotlight this awkward and abrupt policy shift whenever administration officials were called to testify, with an apparent intent to shame the Trump administration for its climate denialism. For example, when the new Secretary of Defense James Mattis testified before the House ASC in June 2017, at a hearing on the annual departmental appropriations bill, Rep. Jim Langevin of Rhode Island reminded him of a statement he had made before taking the job: that "climate change is impacting stability in areas of the world where our troops are operating today" (House Armed Services Committee 2017). Did Mattis still believe that? Langevin asked. If so, how was the Pentagon budgeting for its response to climate change?

Since it would be inappropriate to contradict the military's civilian leadership, Mattis responded cautiously. Mattis tortuously avoided using the term "climate change," while hinting that he and the Department were studying and planning for it:

We have a new sea that is navigable more year-round, where the winter ice no longer extends as far south. So that is a national security consideration. We look at these as they develop, sir, from the warming climate. And we take it into account. But it is hard to quantify the cost. It is simply part of the broadening appreciation of the situation that we confront.

General Joseph Dunford, Chairman of the Joint Chiefs of Staff, added that the U.S. military would have to prepare "to respond to the kinds of natural disasters that I think we see as a second or third-order effect of climate change" (House Armed Services Committee 2017). Mattis then noted that "the changing climate is a driver of instability that requires a broader, whole-of-government response." Their argument was that climate change was become a

political issue. Elected officials needed to hash it out among themselves; the Department of Defense would follow the chain of command.

Meanwhile, the Trump administration was increasingly concerned that China was using loans and backdoor deals to build “dual-use” infrastructure and establish “influence” or “presence” in strategic countries and regions. Testifying before Congress in April of that year, Mattis delivered a sharp opening statement about the scope of the threat. China “leverage[s] diplomatic and economic influence through the Belt and Road Initiative, and China's military interests have followed these initiatives into the Indian Ocean, South Asia and beyond,” he said (House Armed Services Committee 2018). The following month, Mattis would meet with his Danish counterpart Claus Hjort Frederiksen at the Pentagon and tell him to block China’s involvement in the Kalaallit Airports project, hinting that China might one day try to do to Greenland what it was currently doing in the South China Sea.

The Trump administration put unprecedented diplomatic pressure on Denmark to ensure that China was shut out of Greenland. Danish officials accustomed to collegial interactions with their American counterparts bristled at this harsh treatment. Michael Aastrup Jensen, a member of the Folketing and the foreign affairs spokesperson for Denmark’s center-right Venstre Party, described U.S. ambassador Carla Sands as “the most unusual ambassador I’ve ever met...She was very direct, saying essentially: this is how we see it, and we don’t care what you think” (interview with Michael Aastrup Jensen 2021).

With regard to Greenland policy, but also issues such as Huawei 5G and U.S.–EU trade relations, Danish officials found themselves asking, “are we equal allies, or is this the big brother telling us what to do?” (Interview with Michael Aastrup Jensen). Sands also traveled regularly to Greenland and the Faroe Islands, conducting direct discussions with the

governments there in violation of diplomatic protocol. Denmark tried to manage Sands by bolstering its diplomatic outreach to Washington, signaling that it was determined to be “America’s most reliable and loyal NATO ally,” and establishing a backchannel to Pompeo’s office to neutralize the embassy (interview with anonymous Danish member of parliament). Yet Pompeo, too, seemed to see Greenland and the Arctic as strategic priorities. The Trump administration’s NSS made clear that great power competition was the primary focus of American foreign policy. If Greenland was a site of great power competition, then its position was that Denmark had to fall in line.

5.6 Emerging consensus: 2018–2020

By late 2018 the Trump administration realized that it needed to do even more to compete with China in the Arctic. In September of that year, four months after China was blocked from the Kalaallit Airports deal, the Department of Defense made its own open-ended pledge to invest in Greenland (Department of Defense 2018). Citing the “changing security environment in the Arctic,” the Department of Defense said that it “intends to pursue potential strategic investments vigorously, including investments that may serve dual military and civilian purposes.” These included, “for example,” “projects related to the airport infrastructure in Greenland” that would benefit “the people of Greenland.” The motivation for the statement could only have been political, since the Department had only a few years before determined that it did not need any big new infrastructure projects to operate effectively in the region. In other words, it was an open-ended promise to fund the modernization of Greenland’s political infrastructure, obviating Greenland’s need to depend

on China, in the name of “operational flexibility and situational awareness” (Department of Defense 2018).

By 2019 the Danish government had begun to fear that the U.S. might succeed in pulling Greenland out of the Realm. When Trump mused about the possibility of “buying” Greenland in summer 2019, the Danish government was caught completely by surprise (interview with Kristian Mouritzen 2020). Mouritzen, chief national security correspondent for one of Denmark’s major newspapers, interviewed several Danish senior officials immediately after the story broke. He recalled that several were genuinely concerned that Denmark was “losing control of Greenland” and that with American help Greenlandic independence could be viable within the decade. Prime Minister Mette Frederiksen promptly told the press that Trump’s offer to buy Greenland was offensive and “absurd,” precipitating a diplomatic spat that played out on Twitter over several weeks. She immediately flew to Nuuk in a gesture of solidarity against American bullying.

The Trump administration confirmed Danish fears in June 2020 when it opened its first permanent consulate in Nuuk. The new U.S. Consul, Sung Choi, was a former litigator and Asia expert who, according to his LinkedIn biography, had previously spent three years as a vice consul and desk officer in China (LinkedIn 2022). In May 2018, the same month that Secretary of Defense James Mattis had urged his Danish counterpart to block the Kalaallit Airports deal, Choi had been transferred to Copenhagen as a “Political Officer” focusing on “Danish Politics.” By the time he was transferred to Nuuk to head up the new consulate, he had spent a year as a “Greenlandic Affairs Officer.” Choi had a mandate to engage the Greenlandic government directly, with an eye to keeping China out. Michael

Aastrup Jensen recalled meeting Choi in Copenhagen, shortly before he travelled to Nuuk to assume his post:

Sung hosted a dinner at the U.S. Embassy and I was invited, along with some members of parliament from Greenland and the Faroe Islands. We were around 14 or 15 people, just gathering around. What struck me was that he was extremely direct in talking with Greenlandic MPs and the Faroe Islands MPs. Like a salesman—asking why they couldn't change the law on foreign ownership of land in Greenland and so on. I had never experienced anything like it before. He was talking to them like he was an investment expert and they were independent countries. It was quite clear that Sung Choi had been told that we [the Americans] should have Greenland in our pocket somehow, so do whatever you need to do.

To Jensen, this was a sign of disrespect for the territorial integrity of the Danish Realm, and in particular for the Danish government's longstanding support of U.S. interests within NATO.

Later, Aastrup Jensen's American interlocutors confirmed that the U.S. interest in launching direct communications with Greenland had come directly from the White House. "I'm not sure if it was on the presidential level," Aastrup Jensen clarified, "but whoever it was got both the State Department and the Pentagon on board." After Choi arrived in Nuuk, the U.S. Consulate immediately became "extremely—*active* is the perhaps the neutral word—in their public diplomacy toward Greenlandic society, politicians, and media," he recalled. "They completely went around everyone in Copenhagen. We are a bit hurt that everyone can see the game being played" (interview with Michael Aastrup Jensen 2021).

No American members of Congress commented publicly on these developments, but in light of China's obvious interest in Greenland, Democrats and Republicans alike were increasingly of the view that the United States needed to get serious about Arctic climate adaptation. In the November 2018 midterm elections, Democrats retook the House and used their new control over committee agendas to refocus attention on climate security. In March

2019 the House ASC held a hearing specifically focused on “Ensuring Resiliency of Military Installations and Operations in Response to Climate Change” (House Armed Services Committee 2019a). It was first time a congressional committee had held a hearing explicitly focused on Russia and China’s climate geopolitics strategies.

The committee called David Titley, a retired rear admiral and former chief oceanographer of the U.S. Navy, and researcher at Pennsylvania State University, as one of the expert witnesses. Admiral Titley used his prepared remarks to sound the alarm:

Our rivals have been paying close attention to the changing Arctic even while we were not. The Russians are rebuilding their Arctic military capabilities, albeit from very low post-Cold War levels. China declares itself to be a near-Arctic state and hopes to build a Polar Silk Road as a northern flank in its Belt and Road Initiative. China continues to aggressively court the Nordic states and Greenland...The Arctic, as I think everybody knows, is changing incredibly quickly. And our great power rivals...are, frankly, taking advantage of this. (House Armed Services Committee 2019a)

Titley argued that climate change will “affect China’s resource security and shape its strategic choices—it already does.” Yet the United States was still falling behind because China was preparing for climate geopolitics more intelligently. Titley argued that the United States had fallen behind because it had failed to grasp the recursive nature of climate geopolitics:

It is very possible that trade routes could be changing significantly in the next, let’s say, couple of decades. While that may sound a long ways away, you all on this committee know better than me that, by the time you appropriate funds for a ship, build that ship, and that service life of a ship, that is 30 to 50 years. We need to be thinking that far ahead in the Arctic there. There will be ice-free summers. There will be ice-free falls. Shippers will push the limits of the season...We need sovereign presence to build on our scientific capabilities. There are tremendous opportunities for us in the Arctic. We need to pay attention. (House Armed Services Committee 2019a)

In other words, the anticipation of future climate change was already affecting Arctic and global politics, even though the region was still largely impassable.

Climate change thus posed a combination of long-term risks and opportunities—resulting not only to how *geography* might change, but also to how other states *thought* it might change, and to how they might respond. A rational state would plan ahead, laying the groundwork to manage the former and exploit the latter. The United States had fallen behind Russia and China because it was focused primarily on the direct security risks, which still seemed far in the future, and because it had failed to grasp how other states’ perceptions and preparatory moves would have geopolitical consequences.

In June 2019 the Defense Department released a new report that backed up Titley’s assessment:

Temperatures across the Arctic region are increasing more than twice as fast as global average temperatures, accompanied by thawing permafrost and loss of sea ice and glacier mass. Diminishing Arctic sea ice is opening new shipping lanes and increasing access to natural resources during the summer months. If the warming trends continue at the current rate, Arctic-wide sea ice loss may result in nearly ice-free late summers by the 2040s (Department of Defense 2019).

In keeping with the Trump administration’s policy, the Department continued to use euphemisms to refer to climate change. Nevertheless, this was the first time that an unclassified U.S. government policy document described China’s activities in the Arctic as a “risk” and “challenge” to U.S. national security, and the link to climate-induced geographic change was clear. The report echoed Chinese analysts’ views of the Arctic security environment. The Arctic had become “complex” and “increasingly uncertain” due to “a deepening and intensifying of certain problematic strategic trends,” they assessed. These trends presumably included climate change, China’s newfound interest in the region, and the prospect of Sino-Russian partnership:

China does not currently have a permanent Arctic military presence, but is increasing its presence through economic outreach, investments in Arctic states’ strategic sectors, and scientific activities. China also continues to seek opportunities to invest

in dual-use infrastructure in the Arctic...China is attempting to gain a role in the Arctic in ways that may undermine international rules and norms, and there is a risk that its predatory economic behavior globally may be repeated in the Arctic. (Department of Defense 2019, 6)

To compete effectively with China, the United States would need a new Arctic strategy.

In December 2019 the Democratic-controlled House Armed Services Subcommittee on Intelligence and Emerging Threats and Capabilities held another hearing on the subject. This would be the most revealing exposition of the U.S. government's climate security policy ever released to the public. The title of the hearing, "Climate Change in the Era of Strategic Competition," itself marked a notable shift from the Democratic committee chairman. It accepted the Trump administration's framing of the U.S.-China rivalry and connected it directly to climate change. "There's broad bipartisan agreement that climate change is going to have a significant—is going to have, and is having—significant implications for our defense posture," Langevin noted. The goal of the hearing was not to debate just how important climate change was, but rather "to understand how climate is impacting our security, our ability to operate and to plan, and how climate change shapes the threats that we are already watching" (House Armed Services Committee 2019b). The subsequent discussion confirmed that the Democratic and Republican members saw the policy challenge in similar ways, yet the partisan rift over the rhetoric and framing of the issue made productive discussion difficult.

At the hearing, Elise Stefanik, Republican of New York and a close ally of the Trump administration, articulated a conservative perspective on climate geopolitics. Stefanik did not deny the existence of anthropogenic climate change. She acknowledged that climate change would likely "provide additional instability in already fragile regions" like the Middle East and Africa, "create challenges for emerging nations" in Southeast Asia, and "could fuel

rising tensions in contested areas like the Arctic” (House Armed Services Committee 2019b). Yet she argued that it was wrong to respond to these threats by focusing on climate mitigation. Stefanik argued that “China will negate the rest of the world’s efforts to reduce greenhouse gases” by emitting more. Russia, too, was ramping up coal production and oil exploration. If neither rival country intended to cut emissions, then trying “address the human causes of a changing climate...unilaterally” was akin to unilateral disarmament. “Just like we must consider our competitors’ military capabilities when we are modernizing our own defenses, we must consider the actions of other nations when developing solutions to a changing climate,” she concluded. “Our approach to addressing this issue must be done in a way that does not restrain, but enhances our ability to compete globally” (House Armed Services Committee 2019b).

Stefanik’s argument highlighted the fact that for a great power and large emitter like the United States, climate geopolitics is a partly endogenous phenomenon. In theory, the United States could substantially mitigate global climate change by itself, which would curtail the long-term risks of climate adaptation. But this would require other large emitters to cut their own emissions in tandem. Stefanik believed that Chinese and Russian policy toward mitigation and adaptation indicated that both would keep emitting, even if the United States curtailed its emissions. Under these gloomy assumptions, the United States could not prevent a higher emissions scenario from occurring, so it should focus on adaptation, preparing to compete in a great power competition under climate change. Put another way, the United States’ optimal strategy under climate geopolitics depended on what the other biggest emitters were doing. The United States should continually observe their actions but

prepare for the likely scenario that geopolitics would make a meaningful mitigation deal impossible.

Three expert witnesses then explained how the United States intelligence community was thinking about the problem. Maria Langan-Riekhof, Director of the Strategic Futures Group at the National Intelligence Council, Office of the Director of National Intelligence, framed the problem abstractly:

It is difficult to discern the national security implications of climate change in isolation, because it interacts with other environmental conditions and human factors. In many cases, climate change exacerbates existing stressors, such as natural resource constraints that contribute to food and water shortages. Second, it is difficult to project when and where specific disruptive events and other climatological effects will have the most significant national security impact because of the complexities in the Earth's systems, uncertainties in modeling, and the unpredictability of human choices. We do make judgments about the general risk factors (House Armed Services Committee 2019b).

Langan-Riekhof's argument was that the climate change was not a "mono-cause," but a "compounding" variable. She did not use the word "geopolitics" in her testimony, yet she left open the possibility. When she observed that "in the next several years" climate change would probably affect U.S. security mostly through "distinct" events like natural disasters, the implication was that beyond that window, climate change would impact security in a general and ongoing way, *not* through distinct events. This could mean that climate change is likely to cause perennial instability in certain regions or volatility in certain sectors of the economy, or it could refer to some version of climate geopolitics. Langan-Riekhof's comments suggested that the U.S. intelligence community's conception of climate geopolitics was more cautious and uncertain than the Chinese analysts discussed in Chapter 4, with their sweeping predictions and elaborate geopolitical theories.

Elected officials and senior military officials were blunter. When the Senate Armed Services Committee held a similar hearing, in February 2020, Senator Angus King, Independent of Maine, opened by asking General O’Shaughnessy point-blank: “what does China want in the Arctic?” O’Shaughnessy responded that “what we see initially is clearly an economic desire because of the natural resources...But we also see activity, for example, the *Xuelong* [Chinese icebreaker], one of their supposed scientific research vessels, that potentially could be the precursor to increased submarine activity” (Senate Armed Services Committee 2020a). “It sounds like you are saying that the Arctic and Alaska are no longer a sanctuary from which we can safely project power, but it is more of a battle space area,” said Senator Dan Sullivan, Republican of Alaska, alluding to the impact of the melting sea ice on the region’s changing geography. O’Shaughnessy agreed. Sullivan then noted that if this was true, the military should build new Arctic facilities to keep pace with its superpower rivals. The Democrats and Republicans were using different language to talk about the same problem.

The conversation then drifted seamlessly into an open-ended, largely bipartisan discussion about China’s global geoeconomic strategy, which the assembled Senators believed stretched to the Arctic as well. Senator Joe Manchin, Democrat of West Virginia, noted that “One Belt One Road, as far as I am concerned, is [sic] China wants to be the only superpower left by 2050. I hope Americans understand that, and I hope we in Congress understand it. That is what I am concerned about.” O’Shaughnessy agreed. “I think we have all been following what Communist China has been doing around the world,” he said. “What they are trying to do is build relationships and make people dependent on them...In the

Bahamas, which is even closer to home...China is trying to get influence with one of our closest neighbors.” (Senate Armed Services Committee 2020a)

O’Shaughnessy’s argument was that China used investment and political favors to establish presence and influence in strategic regions and compete with the United States, particularly islands that could be potential strategic strong points. In this respect same climate geopolitics logic that shaped China’s approach to the Arctic could apply equally well to the Caribbean.

Meanwhile, federal agencies found creative ways to talk about climate geopolitics despite the Trump administration’s prohibition on the term “climate change.” The Navy’s 2019 Strategic Outlook for the Arctic included an extensive discussion of “Arctic environmental change” (Chief of Naval Operations 2019). “The character of Arctic sea ice continues to change,” it concluded, noting that the volume of sea ice was declining at a rate of 13% per decade in the summer and 3% in the winter. Similarly, the U.S. Coast Guard’s 2019 “Arctic Strategic Outlook” report did not use the term “climate change,” but it referred to climate change in at least six places, even quantifying its projections for future Arctic ice melt by extrapolating from historical satellite data (Coast Guard 2019). The report implied that these climatic changes could potentially offer “broader benefits” to the United States through new economic opportunity. But they were also “in large part” the reason that great power competition was returning to the Arctic. “The resurgence of nation-state competition has coincided with dramatic changes in the physical environment of the Arctic,” it argued. The convergence of these factors “elevated the region’s prominence as a strategically competitive space” (U.S. Coast Guard 2019).

Secretary of State Mike Pompeo was particularly interested in improving U.S. geopolitical competitiveness in the warming Arctic. In 2019, at the Arctic Council ministerial meeting in Finland, Pompeo announced explicitly that the United States would seek to block China's access to the region. "China's pattern of aggressive behavior elsewhere should inform what we do and how it might treat the Arctic," Pompeo said. "Let's just ask ourselves: Do we want Arctic nations broadly, or indigenous communities specifically"—an allusion to Greenland—"to go the way of former government in Sri Lanka or Malaysia, ensnared by debt and corruption? Do we want crucial Arctic infrastructure to end up like Chinese-constructed roads in Ethiopia, crumbling and dangerous after only a few years? Do we want the Arctic Ocean to transform into a new South China Sea, fraught with militarization and competing territorial claims? Do we want the fragile Arctic environment exposed to the same ecological devastation caused by China's fishing fleet in the seas off its coast, or unregulated industrial activity in its own country? I think the answers are pretty clear. (Arctic Council Ministerial Meeting 2019). Most of the attending diplomats from NATO allies were shocked at Pompeo's blunt language (Sengupta 2019).

Pompeo's argument was explicitly about climate geopolitics. He began by acknowledging the geophysical changes taking place in the Arctic far more explicitly than any Trump administration official had done previously. The Arctic was no longer the "barren backcountry," that it was when the United States bought Alaska from Russia in the 19th century, Pompeo claimed. Now, it stood "at the forefront of opportunity and abundance" because "steady reductions in sea ice are opening new passageways and new opportunities for trade." When these finally open, Pompeo predicted, the Northern Sea Route will become the "21st century Suez and Panama Canals" (Arctic Council Ministerial Meeting 2019).

Pompeo did not use the phrases “climate change” or “global warming,” but his meaning was obvious: climate change was the reason for China’s newfound geopolitical interest in the Arctic.

Pompeo predicted that climate geopolitics had become a permanent new feature of Arctic affairs. Over the next century, the Arctic Council would no longer have the “luxury” of focusing on issues like scientific collaboration, on cultural matters, on environmental research, he argued. Geopolitical concerns would overshadow them. “We’re entering a new age of strategic engagement in the Arctic, complete with new threats,” Pompeo warned. China sought to “strengthen its military presence, including deployment of submarines to the region,” and would do so under the cover of civilian investments and scientific cooperation.

This was a sign of the Trump administration’s fixation on the competition with China that Pompeo discussed the United States’ most powerful regional rival as an afterthought. Pompeo was scheduled to visit Greenland as his first stop after the Arctic Council speech, but he had to cancel the trip to handle a minor crisis in the Middle East—a reminder that climate geopolitics, while important, is one of only many considerations that policymakers are managing at any given time.

5.7 Institutionalizing climate geopolitics: 2021

Soon after the Biden administration took power in January 2021, it began to formulate a whole-of-government climate strategy. Whereas the Trump administration’s approach to climate change had been informal, ad hoc, and focused on the geopolitics of adaptation, the Biden administration began immediately to develop an integrated interagency strategy for both mitigation and adaptation. This section discusses the review process through

October 2021 alongside various statements and initiatives produced by that process that are then used as a lens to interpret the Biden administration's adjustments made to its 2021 Greenland policy. The Biden administration actively played down the Trump-era rhetoric that explicitly linked climate change to geopolitics, but it concurred with the Trump administration's core diagnoses of China's climate geopolitics strategy in Greenland. It doubled down on the Trump administration's basic strategy for dealing with Greenland—including financial assistance and diplomatic outreach. This was an unpleasant surprise to Danish officials, discussed further in Chapter 6.

Just seven days after his inauguration in January 2022, Biden issued Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad." The order declared that "it is the policy of my Administration that climate considerations shall be an essential element of United States foreign policy and national security." It ordered a comprehensive review of climate security risks and instructed all federal agencies to draw up their own action plans (White House 2021). The intelligence community was instructed to produce a National Intelligence Assessment of the security implications of climate change. The Secretary of Defense, together with several other technical agencies, was instructed to produce a separate comprehensive "analysis of the security implications of climate change...that can be incorporated into modeling, simulation, war-gaming, and other analyses." The Pentagon and Joint Chiefs of Staff were charged to "consider" these conclusions in all future National Defense Strategies, Defense Planning Guidances, Chairman's Risk Assessments, and "other relevant strategy, planning, and programming documents and processes." And the Department of Homeland Security (DHS) was ordered to "consider the implications of climate change in the Arctic, along our Nation's borders, and to National Critical Functions"

in all future planning, and to report annually to Congress about its progress in doing so (White House 2021).

Biden's E.O. 14008 suggested that the federal government should treat mitigation and adaptation as distinct and equally important policy challenges. The EO's preface committed the United States to "put the world on a sustainable climate pathway" and to "move quickly to build resilience [another term for adaptation], both at home and abroad." Insofar as the E.O. commented on geopolitics and American external security, it framed climate change as more of a risk than an opportunity. All eleven references to "opportunity" in the E.O. related to potential of climate investments to create jobs for marginalized workers. Overseas, the discussion of "adaptation" and "resilience"—it used the words interchangeably—were focused on risk management. This marked a shift within the Democratic party, as the Obama administration had focused squarely on mitigation. Yet it suggested that Democrats still saw climate geopolitics as more of a problem, and less of an opportunity, than Republicans.

While the E.O. itself did not use the word "geopolitics," the Pentagon clearly believed that climate geopolitics fell under its purview. Biden's incoming Secretary of Defense, Lloyd Austin, noted in January 2021 that "there is little about what the Department [of Defense] does to defend the American people that is not affected by climate change" (Department of Defense 2021). Joseph Bryan, Senior Advisor on Climate to the U.S. Secretary of Defense, noted that in response to Biden's order the Pentagon's Climate Risk Analysis would be a "document that looks externally at how climate change is impacting global security and geopolitics, how it impacts our partner relationships" (Navy Postgraduate School 2021). Bryan also noted that "we know that [Arctic warming] has geopolitical implications, and already the region is seeing competition heating up for resources and influence." By this

time, the observation that climate change was the underlying driver of Arctic geopolitical competition was no longer controversial.

Following the interagency review, the Biden administration reached a similar conclusion about climate geopolitics as the Trump administration, reaffirming that China was the central problem, and the Arctic the most immediate zone of competition. The Department of Homeland Security's (DHS) "Climate Action Plan" found that "climate change will interact with strategic competition, demographic changes, and emerging technology to create new risks and complicate existing challenges to our national security" (Department of Homeland Security 2021). "Strategic competition" obviously referred to the superpower rivalry with China. The word "interact" signified that climate change and geopolitics would recursively affect one another, since climate change for superpowers is partly endogenous. To illustrate the point, the DHS cited a single example: "The retreating sea ice in the Arctic has already converged with strategic competition with China to transform the Polar regions into a competitive space which will require significant attention" from the Coast Guard.³²

In another October 2021 report to the National Security Council, the Defense Department predicted that "competitors such as China may try to take advantage of the impacts of climate change to gain influence" (Department of Defense 2021). Days later, the Biden administration's National Intelligence Estimate (NIE) confirmed these judgments, to which it several new gloomy findings, starting with a grim outlook for the future of the climate itself: "Given current government policies and trends in technology development, we judge that collectively countries are unlikely to meet the Paris goals" (National Intelligence

³² Notably, the DHS report did not mention Russia at all. Only six years before, Admiral Gortney had portrayed Russia as the only serious threat to U.S. interests in the Arctic. Now, the focus was on China.

Council 2021, 3). China and India “will play critical roles in determining the trajectory of temperature rise” (National Intelligence Council 2021, 5). Based on these two countries’ recent energy policies, and the fact that they and other developing countries were demanding large amounts of financial and technological assistance to facilitate their energy transition, the NIE predicted at least 1.5 degrees of warming above pre-industrial levels by 2030, followed by “intensifying” warming thereafter (National Intelligence Council 2021, 11).

The report concluded by predicting with “moderate confidence” that global warming would breach 1.5 degrees above pre-industrial levels around 2030. It also noted that the “current trajectory” of emissions would lead warming to continue, surpassing 2 degrees by “around mid-century” and potentially accelerating thereafter. Matching this assessment with the IPCC scenarios discussed in Chapter 2, this implied that the world was likely to enter one of the higher-emissions shared socioeconomic pathways, that the Arctic sea ice would likely disappear entirely in the summer months around mid-century, and that the pace of global sea level rise would accelerate thereafter.

The rest of the NIE discussed the “geopolitics” of climate change. This was the first time a U.S. government report had brought geopolitics and climate change together, and it made for somber reading. First, it noted that climate mitigation posed a thorny geopolitical challenge: the debate about how countries should share the cost of decarbonization. Given the recent state of emissions negotiations, the NIE assessed that the “cooperative breakthrough” of the Paris Agreement “may be short lived.” It did not elaborate on what this worst-case scenario might look like, but the subtext was that tricky geopolitics of mitigation risked locking the world into a business-as-usual emissions and warming scenario, which would imply warming even worse than base case by mid-century.

The NIE then discussed the geopolitics of adaptation, with a focus on the Arctic. Great power competition in the Arctic “almost certainly will increase” as the region “becomes more accessible because of warming temperatures and reduced ice,” it assessed. Competition will be largely economic in nature, largely because “massive investment in infrastructure” particularly ports and mining, is necessary to “maximize” the region’s “economic potential.” Yet the economic competition to adapt in the Arctic would be intrinsically strategic because the ambiguous nature of these investments would “offe[r] foreign powers an opportunity to gain a foothold.” Once this infrastructure becomes operational, “Arctic and non-Arctic states” (presumably referring to China) would “seek to protect their investments, exploit new maritime routes, and gain strategic advantages over rivals.”

Altogether, the report assessed that the Arctic would remain peaceful, and that the “risk of miscalculation” will increase only “modestly” by 2040 as the Northern Sea Route opens further. However, it cautioned that if China were to “begin regular, large-scale military operations in the area to protect an economic foothold in the region,” the risk of conflict would increase significantly. The appendix categorized this scenario of Chinese Arctic military buildup as an “event...that would change our assessment” about the prospects for peace in the broader Arctic. In as many words, the United States intelligence community was accusing China of exploiting Arctic climate change for its own geopolitical benefit, with the potential to trigger a regional arms race. It illustrated this point with an obvious allusion to Greenland, the only place in the region where China had sought a “foothold” by investing in Arctic ports and mines.

The NIE also showed how the United States intelligence community was refining its methods for assessing climate geopolitics, or at least was becoming more open about disclosing them. The document acknowledged that the intelligence community had only “low to moderate confidence” in its estimates of how physical climate impacts will affect U.S. national security interests and lacked certainty about the “timing and location of potential geopolitical tension.” This uncertainty was due to “the complex dimensions of human and state decision making” and the “challenge of connecting climate, weather, and sociopolitical models.” This defines “ambiguity,” one of the key constitutive features of my definition of climate geopolitics. Like the Chinese assessments of climate geopolitics in Chapter 4, the U.S. intelligence community was acknowledging that this ambiguity made it impossible to draw specific predictions but were useful for making decisions about resource allocation.

Finally, the report acknowledged that the U.S. federal government acknowledged climate geopolitics as a partially endogenous phenomenon. The U.S. approach to mitigation and adaptation influences the distribution of potential climate and geographic futures that other great powers perceive, and therefore indirectly influences their assessments and actions within climate geopolitics.

U.S.-China negotiations ahead of the COP26 summit in Glasgow in November 2021 seemed to validate the Biden administration’s assessments of climate geopolitics. In September 2021, weeks before the summit, U.S. climate envoy John Kerry held two and a half days of negotiations with Chinese counterparts in Tianjin. Both sides emerged frustrated. Chinese State Councilor and Foreign Minister Wang Yi stated that they had told Kerry that cooperation on climate mitigation “cannot possibly be divorced” from geopolitical tensions elsewhere. “The U.S. side hopes that climate cooperation can be an ‘oasis’ in China-U.S.

relations, but if that ‘oasis’ is surrounded by desert, it will also become desertified sooner or later,” Wang said. Kerry told reporters that he had responded by saying that “climate is not ideological; it’s not partisan; it’s not a geostrategic weapon or tool” (Buckley and Friedman 2021). Both sides’ comments indicated a concern that geopolitical competition would block a path to an emissions deal. They also suggested that there was a very real possibility that without a stringent mitigation deal, climate change would become “decertified” and even “weaponized” in the context of a broader geopolitical competition over adaptation.

Meanwhile, the Biden administration was adjusting its policy toward Greenland to reflect these assessments. It recalled Sung Choi, the Trump administration’s U.S. Consul to Greenland, and replaced him with Joanie Simon, another experienced China expert, also fluent in Mandarin (United States Embassy and Consulate 2021). Simons then ramped up the U.S. consulate’s social media activity, posting regularly in Greenlandic on Instagram and Facebook and hiring a full local staff to coordinate her photogenic travels across the country (US Consulate Nuuk 2021). In May 2021, Secretary of State Antony Blinken visited Greenland, something that even Pompeo had not done. While there, he toured a fast-melting section of the ice sheet in a helicopter with the Greenlandic Prime Minister, Múte Egede. These moves indicated continued U.S. interest, plus a project to engage not only Greenland’s elites, but also its population.

From Greenland’s perspective, the transition from Trump to Biden had marked a change in U.S. rhetoric, but not U.S. policy (interview with Aleqa Hammond 2022). After the helicopter trip, Blinken and Egede took questions from the press. Egede used his remarks to point out that climate change was the fundamental reason that the United States had growing interests in Greenland. “You see the ice cap today,” he said. “You’ve been told about the

climate changes...Greenland has in the U.S. what every country needs—a close friend, a good and open relation, and a strong ally to keep and maintain the Arctic as a peaceful place” (Department of State 2021).

A reporter asked the dignitaries whether the underlying reason for Blinken’s visit was the fact that Greenland’s geostrategic position was growing increasingly important. Greenlandic Foreign Minister Pele Broberg took the question and explicitly accepted its premise. “There is no doubt that a lot of people speculating on the geolocation” of Greenland, he said, “and it’s of the utmost importance for the defense of the United States.” Broberg then pointed out that Greenland was not offended by the sudden resurgence of U.S. interest in its geography. Blinken had clarified that Biden did not see relations with Greenland as simply a ““real estate deal,”” in Trump’s words. “Real estate means land with nothing on it, nobody on it. Secretary Blinken has made it very clear that he is here for the *people* living in the Arctic, for the people living in Greenland. So [from] our point of view, it’s a matter of pride that Secretary Blinken has honored us with his visit,” Broberg added. This symbolic concession was a gesture of respect from the American side. Otherwise, Broberg’s point was that Washington had to treat Greenlanders with respect if it wanted to preserve its access to the Arctic as climate change unfolded. Blinken, for his part, dodged the reporter’s question about Greenland’s geopolitical importance and spoke in general terms about the importance of partnership and cooperation. His comments indicated that the Biden administration would keep formally denying that it was pursuing a climate geopolitics strategy, even as the State and Defense Departments’ planning documents showed that they were linking their climate adaptation planning to great power competition.

The Biden administration also continued Trump’s policy of unconditional financial assistance to Greenland. In April 2020 the Trump administration announced a \$12.1 million aid package for Greenland, equating to over \$200 per citizen (BBC 2020). In September 2021, following the Blinken visit, the Biden administration announced another \$10 million unconditional aid package (Gronholt-Pedersen 2021). The Greenlandic government trumpeted the announcement as proof that its bargaining strategy was working. “This is not a big amount, but symbolically it’s very important,” Broberg said when the package was announced. “We don’t get the support from Denmark we need...So now we try to go our own ways, without Denmark.” Senior Danish politicians found these developments very disturbing. who feared that Biden administration, for all its talk about NATO unity, was trying to split apart the Danish Realm (interview with Michael Aastrup Jensen). For the United States, these policies showed the extent of bipartisan consensus on climate geopolitics in the Arctic. To keep China out of Greenland, the Biden administration was willing to strain relations with one of its closest NATO allies.

5.8 Conclusion

This chapter has traced the emergence of a bipartisan consensus in the United States about climate geopolitics in the Arctic—in practice, if not in rhetoric. Between the beginning of Barack Obama’s administration in 2009 through Donald Trump’s accession to the presidency in January 2017, the United States vaguely identified climate change as a security challenge in the Arctic, but not explicitly as a *geopolitical* security challenge. Instead, Obama-era federal reports highlighted the need for the Defense Department to protect indigenous communities from the consequences of climate change and promote scientific research.

Under Trump, the United States government formally denied the existence of anthropogenic climate change, stripping mentions of the term almost entirely from federal government publications and pushing many high-ranking civil servants in related departments to resign. As a result, there is no evidence of any systematic interagency effort to assess the potential security implications of climate change and devise a coordinated federal government response.

Nevertheless, the Trump administration's actions and statements showed that senior officials, particularly Secretary of State Mike Pompeo, were concerned about climate geopolitics. They re-engaged the Defense Department and DHS in the region, consolidated relations with NATO allies and partners, identified China as a threat nearly equal to Russia in the Arctic, and developed an opportunistic approach to the geopolitics of climate adaptation, all while denying responsibility for climate mitigation. These measures were domestically controversial; congressional hearings provide the best documentary record of how the political and security discourse around climate geopolitics evolved. A close analysis of these hearings shows that Democrats and Republicans focused on different aspects of the climate challenge and framed the issue in strikingly different terms, but gradually came to accept that superpower competition with China in the Arctic was fundamentally interconnected with the region's changing climate and geography.

The Biden administration has used different rhetoric from Trump and appeared to negotiate in good faith for a more ambitious climate mitigation deal, but by late 2021 it seemed to have reached a similar conclusion to Trump about the inevitability of climate geopolitics. In reports published by the Department of Homeland Security and the National Intelligence Council, the Biden administration communicated a growing concern that China

was planning to exploit climate adaptation for geopolitical benefit in the Arctic and other regions, including potentially Central Africa and the Pacific islands. Chief climate envoy John Kerry alluded to this assessment in comments to the press before the COP26 conference at Glasgow, hinting that China was insufficiently committed to mitigation seemed to be considering whether climate change could be a “geostrategic weapon” or “tool” to gain leverage over the United States. The Biden administration acted on this analysis in several ways, including by redoubling its aid and public diplomacy programs in Greenland. Yet Greenlanders had their own ideas and assessments of their place in the emerging climate geopolitics of the Arctic—and no small amount of agency in influencing the outcome. In the next chapter, we will consider how Greenlandic elites interpreted American and Chinese interests and sought to exploit them for their country’s advantage.

CHAPTER 6

Climate Geopolitics and Small State Agency: Greenland and the Danish Realm

6.1 Introduction

This chapter argues that Greenland has significant agency in shaping the superpowers' perception and practice of climate geopolitics in the Arctic. Drawing on Danish-language periodical sources, Danish-language government reports, and semi-structured elite interviews in Copenhagen and Nuuk, and combining contemporary political history with discourse analysis, it traces how Greenland emerged from a remote territory of the Danish Realm to a semi-autonomous geopolitical actor capable of negotiating directly with the United States and China. In the process, it discusses how Greenlandic politicians from multiple parties have tried various strategies to exploit climate geopolitics by playing the superpowers against each other and advancing the national independence project. Some of the Greenlandic politicians I interviewed disagreed with my framing of climate geopolitics. However, the chapter shows that a set of assumptions consistent with my definition of climate geopolitics informs elite discourse in Greenland across parties and on a wide range of issues. These include the country's long-term economic strategy and the role of infrastructure megaprojects such as airports and mines; Greenland's future relationships with longstanding partners such as Denmark, the United States, and NATO; and the potential risks and opportunities that come with forging a new relationship with China.

The chapter is structured as follows. First, I describe the sources and methods used and discuss some of the challenges to data collection. Next, I briefly survey the modern history of Greenlandic politics through the self-government referendum of 2008. This section

traces the origins of the current party system and Greenland's legal and political relationship to Denmark and the United States. Then I look in more detail at the evolution of Greenlandic elite opinion about climate geopolitics after Self Rule began in 2009. During this period, which I divide into five phases, I show how and why many leading Greenlandic politicians across parties came to believe that their country was an appreciating strategic asset to the United States and China under climate geopolitics. This assessment was based both on Greenland's favorable geographical location in the context of a melting Arctic, Greenland's large resources of critical minerals, and U.S. and Chinese statements and actions. I then show how Greenlandic politicians and analysts working on this assumption developed strategies to bargain more aggressively with Denmark, the United States, and China to achieve their domestic goals.

6.2 Sources and methods

The discourse analysis in this chapter is based on a comprehensive review of Greenlandic open-source primary materials. I described my approach in detail in Chapter 3. To recapitulate briefly, I systematically reviewed online databases, with the goal of collecting every possibly relevant source in English and Danish between 2009 and 2021 and examined the websites of all political parties in Denmark and Greenland all relevant Danish and Greenlandic primary source documents published by governments and civil society organizations cited in the peer-reviewed secondary literature.³³ These led me to

³³ Notable sources of this category include: Foreign Ministry of Denmark, "Arktis i en brydningstid" [Arctic in a Time of Change], May 2008; Government of Greenland, "The Greenland Self-Government Arrangement," 2009; Committee for Greenlandic Mineral Resources to the Benefit of Society, "To the Benefit of Greenland," January 2014. I also consulted miscellaneous other official publications, such as press releases, found by searching for key terms on government websites.

miscellaneous other publications, such as press releases and minutes of parliamentary debates. I also reviewed Greenland's annual Foreign Policy Statements ("URs") [Udenrigspolitisk Redegørelse] and Political-Economic Reports ("POs") [Politisk-Økonomisk Beretning]. These are annual reports written in Danish by civil servants at the Greenlandic foreign ministry that summarize the activities of the past year, analyze regional and global trends, and state the Greenlandic government's goals for the coming year. Based on these written sources, I double-checked all final translations with a bilingual human translator.³⁴ I then compiled this into timelines and developed a list of unanswered questions and hypotheses.

The written record of the Greenlandic discourse about climate geopolitics is limited in several respects. The most detailed records of routine political happenings in Greenland can be found in daily newspaper articles. These stories are typically impressionistic and short. Often, the original research is done by a single reporter, and other papers follow with nearly identical reports that repackage the original report in less-precise language. Quotes are often taken out of context and selected for punchiness. When speaking to the press, seasoned officials often avoid sharing information and obfuscating their true opinions. Others may have specific short-term incentives to make misleading statements. Newspaper reports are therefore most useful as secondary sources for reconstructing the chronological fact-pattern, identifying relevant individuals and organizations. Some of them indicate where various

³⁴ In Nuuk, I hired a research assistant to provide translation help with Danish and Greenlandic written sources and interviews. This individual was a trilingual master's student in political science at Ilisimatusarfik (University of Greenland). At the beginning of their involvement, she received full briefings on the project's goals, methods, and hypotheses so she could consent freely to participate. She was compensated at a standard rate appropriate for freelance research, GBP13 per hour, paid through my Oxford research funding. In accordance with my approved CUREC ethics application, I provided her with written consent forms explaining the purpose and methods of the project; confirming that she could opt-out of any part of the research, for any reason, at any time; confirming their right to remain anonymous if they desired; and committing to acknowledge her contributions in the final version of the dissertation and any subsequent derivative works.

public officials stood—or at least where they claimed to stand. In this respect, they are primary sources.

To account for these gaps and test my within-case hypotheses, I proceeded to conducted two-dozen semi-structured elite interviews over Skype and in person in Copenhagen and Nuuk. I applied one main criterion for drawing up an initial list interview subjects: all Danish and Greenlandic interview subjects must have had some primary professional interaction with at least one stakeholder group in the United States, China, Greenland, or Denmark. Most were politicians who had commented publicly on negotiations, businesspeople with knowledge of official visits, or bureaucrats in relevant ministries. I treat these as primary sources and cite all claims drawn from them.

In addition, I interviewed scholars and journalists who had written about the project-level case studies at the time. Bearing in mind these individuals' published writing and professional affiliations, I treated these interviews as secondary sources, clarifying matters of fact and stress-testing within-case hypotheses. Among the former group, I interviewed at least one on-the-record interview with at least one subject personally affiliated with each stakeholder group—and in most cases, more than one. My sampling procedure was therefore deliberately *not* random: my aim was to represent the fullest possible range of elite perspectives in the major stakeholder groups (Tansey 2007).

I followed a consistent procedure in assembling the list of potential interview subjects. I assembled a list of all scholars and journalists who had authored original content of reasonable quality on the issues at hand, and all public officials and private individuals quoted in these materials. I then made reasonable efforts to contact each of them by email, LinkedIn, Facebook, telephone, and personal referrals. Then, I expanded the list through

snowball sampling, asking each interview subject who agreed to meet with me to suggest additional contacts. I solicited these referrals at the end of every interview, asking: “Can you think of anyone with a different perspective on this topic that I should not miss the chance to interview?” I subsequently contacted all new names suggested to me. I was ultimately able to speak with elected officials from all major stakeholder groups except the Danish Social Democrats. I followed consistent data collection, protection, and consent solicitation procedures in all interviews, both in-person and videoconference, as specified in my research ethics application (CUREC).

6.3 Interpretative challenges

Greenland is a small society, and its party system and political discourse reflect that fact, creating some interpretative challenges for researchers. The population of fifty-six thousand is geographically dispersed. Travel between settlements is difficult and extremely expensive. Even though the settlements are linked by family and community networks, interviews conducted in English in Nuuk are decidedly *elite* interviews and do not necessarily reflect the views of the Greenlandic population at large. The small population size also gives Greenlandic politics a few idiosyncratic features. Each of the thirty-one members of the parliament [Inatsisartut] represents fewer than two thousand constituents. The resulting party system is complex, fluid, and deeply local in its orientation. There are many small parties. In almost every general election, at least one new political party is elected to parliament. Most voters know their elected officials personally and are connected to them on Facebook. As in any small polity, campaigns and voting preferences can be quite

personal in nature. Some smaller parties serve more as platforms for their leading personalities than as formal organizations (Jacobsen and Gad 2017).

These features complicate the project of rendering the Greenlandic political system as a stylized stakeholder map. Relatively little about the informal network structures of the party system can be found in the English-language literature (Ackrén 2015, Jacobsen and Gad 2017, Kristensen and Rahbek-Clemmensen 2017). The Danish-language secondary literature is richer, but the most thorough works are now slightly dated (Bjørst 2012). Greenlandic political parties also exhibit frequent internal disagreements about foreign policy, sometimes resulting in schisms. A simple map requires ignoring nuances and small differences, but a map focused on accuracy quickly becomes too convoluted to be useful. I manage this problem by focusing on the key individuals in each party who drove policy during this time period, and then assessing the constraints they faced from their coalition partners, Denmark, and elsewhere.

The informal, personal nature of Greenlandic politics also creates complications for discourse analysis. There is little print media in Greenland apart from the daily newspaper, *Sermitsiaq*. Unlike in larger Western democracies, most of Greenland's political parties do not publish detailed written manifestos. Many do not even have substantial websites. Politicians communicate with their constituents in small events, over the radio, and constituents often contact their representatives via direct messaging on Facebook. A full analysis of the key politicians' historical social media postings, most of which are written in Greenlandic, is beyond the scope of this dissertation. Instead, I draw on the public statements of prominent figures in each party in Danish, as reported in *Sermitsiaq*, and then test and refine my hypotheses through interviews.

The final significant interpretative difficulty is that Greenlanders rarely discuss climate geopolitics explicitly, even though they frequently refer to it implicitly. Indeed, some Greenlandic politicians, when asked point-blank, denied that climate change and geopolitics have anything to do with one another. I examined these counterarguments carefully and dismissed them whenever I found documentation of those same politicians referencing the phenomenon that I define as climate geopolitics in other contexts—for example, in the common trope that Greenland’s “value” is “rising,” or in the claim that Greenland’s bargaining leverage over the United States and Denmark is increasing for unstated secular reasons. I explain these statements by noting that climate geopolitics is, by definition, a structural, long-term, and exogenous theme from the perspective of a small state. Therefore, some practitioners of foreign policy may not immediately grasp why it is relevant to their daily activities.

Some Greenlandic politicians accept the basic logic of climate geopolitics, but express inconsistent views about its implications. For example, my field interviews showed no clear connection between beliefs about climate change (opportunity or risk) and perceptions of China (good or bad). In interviews I conducted in summer 2021, two Greenlandic politicians made comments strongly critical of China that clashed with much more accommodative statements they had made just a few years earlier. I also found a wide range of views in Greenland on what independence means and when, whether, and to what extent it might be possible. However, the fact that elite views of climate geopolitics are varied and inconsistent does not mean that the topic itself is unimportant. On the contrary, it corroborates my argument that many elite practitioners understand climate geopolitics as an ambiguous or “fuzzy” phenomenon (Reyna and Brainerd 1995; Reyna 2004). Fortunately,

my test for establishing the validity of climate geopolitics does not require that I be able to reconcile or explain every one of these contradictions and disagreements.

6.4 Denmark–Greenland relations through 2008

Greenland has been a colony for most of the last millennium. The first human settlements were formed there as early as 2500 B.C. A succession of societies lived on the island, leaving few records, and faded away after the first Inuit peoples arrived around 1200 A.D. The first European contact was made by the Viking explorer Erik the Red late in the tenth century. The Norse created three settlements in Greenland, with a population ultimately reaching several thousand but they were ultimately abandoned due to the harsh weather in the fourteenth century. Greenland was re-settled by the Norwegian missionary Hans Egede in 1721, who founded the modern capital of Godthåb (today's Nuuk) and proselytized unsuccessfully to nearby Inuit.

Greenland formally became a colony of Denmark-Norway in 1775. From that point until 1941, it was kept under trade monopoly by the Danish crown. Apart from a few Norwegian and American explorers, Greenland received few foreign visitors, and even fewer Greenlandic Inuit traveled abroad. Starting in the nineteenth century, Danish administrators allowed the Inuit to elect local councils, but Inuit indigenous peoples were not permitted to form national-level political organizations. Danish trading companies pushed to keep the indigenous population geographically dispersed, to cover the largest possible number of hunting grounds. Danish administrators also controlled the distribution of essential imported foodstuffs, tools, and fuel. This colonial legacy colors the contemporary relationship between Greenland and Denmark and informs the Greenlandic public's desire for greater autonomy.

During the Second World War, Danish authority over Greenland began to weaken. The colonial economic and political order broke down when Germany invaded Denmark in 1940, cutting the supply lines to Greenland. Henrik Kauffmann, the Danish ambassador to the United States, refused to recognize German rule. On April 9, 1941, he signed a treaty that authorized the United States to establish facilities in Greenland.³⁵ In coordination with Kauffmann and a “Greenland Committee” headquartered in Washington, the U.S. military established fourteen bases across Greenland and used them extensively for the duration of the war. Many of the airfields and other critical infrastructure they built during this period are still used today. The arrival of American servicemen also broke Denmark’s trade monopoly. It introduced Greenlanders to the English language and to American consumer culture in the form of Sears Roebuck catalogs that offered inhabitants access to a vast array of consumer goods for the first time (Lockhart 2019). The United States would retain significant cultural influence and responsibility for Greenland’s security, even when Denmark retook political control in 1945.

After the war, Washington handed back administrative control to Copenhagen, which yielded to Greenlandic calls for reform. The trade monopoly was abolished. In 1953, a Danish Greenland Commission [Grønlandskommissionen] published a report, in accordance with which Greenland became a province of Denmark and received representation in the Danish parliament [Folketing] for the first time. Also pursuant to the Commission’s recommendations, Denmark began a decades-long project of urbanizing, modernizing, and “Danicizing” Greenland.

³⁵ The Danish government later fired Kauffmann and charged him with treason for signing away control of Greenland, though he never faced punishment.

These policies brought Nordic-style welfare policies, offering free education, health care, and other social services (Sørensen 2007). Yet Denmark's efforts, well-intended or not, had lasting negative effects. Thousands of Greenlanders were relocated from traditional dwellings and settlements into cramped apartment blocks in the cities. As the population swelled, unemployment, alcoholism, domestic violence, and child abuse became widespread (Tine et al. 2002). Public life and mass media was almost exclusively held in the Danish language, which discriminated against people who spoke only Greenlandic. The collective memory of this period is still fresh, fostering lasting inequalities and social resentments toward Danish rule (Rud 2017). "The first thing you must do when you arrive in Greenland," a leading expert on Greenlandic politics told me on condition of anonymity, is to "make it extremely clear that you are not a Dane." Only then, he added, would local people speak to me openly.

Dissatisfied with Denmark, younger Greenlanders demanded home rule. Many Danish politicians were sympathetic. In 1979, Denmark granted Greenland's request for home rule and a Greenlandic government [Naalakkersuisut] and parliament [Inatsisartut] were established. Control of health care, schools, and social services was devolved. Copenhagen maintained control of foreign relations, defense, monetary policy, and the legal system, among other competencies, and retained its influence through provision of an annual block grant worth roughly one-third of Greenland's gross domestic product. The ruling Siumut party remained committed to full independence.

Almost immediately after being granted Home Rule, the new government in Nuuk started to push for partial separation from Denmark. In 1985, Greenland withdrew from the European Economic Community, the precursor to the European Union, while Denmark

remained inside. In 2003, Greenland's Commission on Self-Governance published a report describing six potential possibilities for the future of Greenland, stating formally for the first time that full independence could be a final goal. No leading Greenlandic politician advocated immediate independence, but Siumut wanted a mandate to move in that direction.

In 2008, Greenlandic voters overwhelmingly approved a referendum to take home additional competencies and move towards full independence. The margin was overwhelming—76% in favor, to only 24% opposed. The referendum was codified in the Self-Government Act, which the Folketing ratified. On June 21, 2009, the Greenlandic flag was raised above the parliament building in Nuuk. Greenland became the official language, and Denmark devolved several new competencies to the newly renamed Greenlandic Self-Government [Grønlands Selvstyres], including full control over “sub-surface” natural resources [Self-Government Act 2009].

Danish scholars and commentators typically refer to Greenland's “*Self-Government*,” perhaps fearing that references to the “Greenlandic government” would imply that Greenland is sovereign. Nevertheless, for reasons of style and simplicity, I refer to the “Greenland Self-Government” as either the “Greenlandic government” or the “government of Greenland.” For the same reasons, I also use Greenlandic terminology of a Greenlandic “foreign minister,” an appellation that Denmark does not accept.

The Self-Government Act confirmed that the Danish Realm has full control over foreign and security matters for the entire Realm—but it did not define what “security” means. This ambiguous definition of security is formally legal but practically political, since it has never been adjudicated by the courts. It also has significant policy implications. Copenhagen has repeatedly argued that a range of proposed Chinese commercial and

scientific activities in Greenland relate to security because they would give China the power to coerce Greenland. Denmark therefore asserts the right to veto them. Most major Greenlandic political parties reject this argument, but Greenland has limited leverage to challenge it. If Denmark were to cut off the block grant, worth about one-third of Greenland's GDP, it would cause an immediate and devastating fiscal crisis in Greenland. Even Aleqa Hammond, the famously hardline pro-independence former prime minister, confirmed to me that there is no way for Greenland to take formal control of foreign and security policy until it achieves full independence.

Greenland does, however, have some leverage to push the limits of its power within the scope of the Self-Government Act. While Denmark can threaten to cut off the block grant, breaking up the Kingdom of Denmark would not serve its interests—or those of Washington or NATO. It would risk forcing a newly sovereign but not yet self-sufficient Greenland into dependence on another patron state, such as China.

Greenlandic governments also have political cover to engage diplomatically with other countries because all major political parties in Denmark, except the right-populist Danish People's Party, have pledged to accept Greenlanders' decision if they vote to exit the Realm (interview with Michael Aastrup Jensen). Denmark has also accepted the premise that the Greenlandic government has some legitimate prerogative to lay the groundwork for independence, providing it does not harm Danish interests in the process. Recognizing this, successive Greenlandic governments have sought to blur the Act's prohibition on the practice of "foreign policy." They have participated in Arctic multilateral institutions, established diplomatic representations in several foreign capitals, and even sent their "foreign minister" to meet with foreign dignitaries and attend multilateral meetings. Some Danish politicians,

who wish to keep Greenland inside the Kingdom, disapprove of these developments (interview with Michael Aastrup Jensen).

What mandate did the 2008 referendum grant to future Greenlandic governments? This was a key question since independence would be impossible without economic reforms and deals to attract big investments from abroad. Nearly all Greenlandic parties and political actors claim to be “pro-independence,” but they disagree profoundly about the symbolic characteristics and practical details of what “independence” means. To some parties—Naleraq, Nunatta Qitornai, and a faction of Siumut—independence is seen as an anticolonial, even ethnonationalist project. In this view, independence symbolizes the entry of the *Kalaallit* (Greenlandic) people into the global community of nations requires full liberation from Danish rule. By contrast, Demokratiit, Atassut, and the dominant faction in the Inuit Ataqatigiit (IA) party see independence as a more gradualist project to create an economically prosperous, self-determined, and pluralist society. Because these parties see independence more as a project for improving the welfare of the Greenlandic people, many of their leading figures argue that the road to independence will require several decades of careful diplomacy and economic and human development—and will probably entail a close long-term relationship with Denmark.

The two most important political parties in Greenland are Siumut or Inuit Ataqatigiit (IA). Either one or the other held power for the entirety of the period studied. To stylize the difference between the two: Siumut is more rhetorically assertive in its support for independence, distrust of Denmark, and openness to political cooperation and investments from China; IA leans toward the United States, is more tolerant of Denmark and of Danish-language speakers, and prioritizes environmental conservation and economic development

(Kristensen and Rahbek-Clemmensen 2017). Both parties are pragmatic, however, and their positions on specific foreign policy issues depends largely on external factors and the preferences of the parties' changing leadership. Both also apply principles of climate geopolitics in their relations with China and the United States, suggesting that they are aware that both superpowers see Greenland as an appreciating strategic asset.

6.5 First steps toward a foreign policy: 2009–2012

After the Self-Government Act took effect, the Greenlandic government launched an ambitious and comprehensive effort to prepare for independence. Days before the new Self-Government, the IA party had won the national election, and its leader, Kuupik Kleist, had become prime minister. IA had run on a pro-independence, pro-development, and pro-environment platform. It was the first time since Home Rule that Siumut had lost power. With a decisive mandate, Kleist began working to build on the Self-Government Act by developing the economy to lay the groundwork for full independence. The Greenlandic government began to produce annual foreign policy and political economy reports: the URs and POs. These reports rarely used the word “independence” explicitly (Fig. 6.1). Yet they were clearly intended to document Greenland's progress toward that goal. From the very beginning, the URs expressed Greenland's ambition to push against the legal limits of the Self-Government Act. “We are expanding and developing Greenland in every possible way” with an eye toward independence, the 2010 UR asserted. “This will also be reflected in the foreign policy area” (UR 2010).

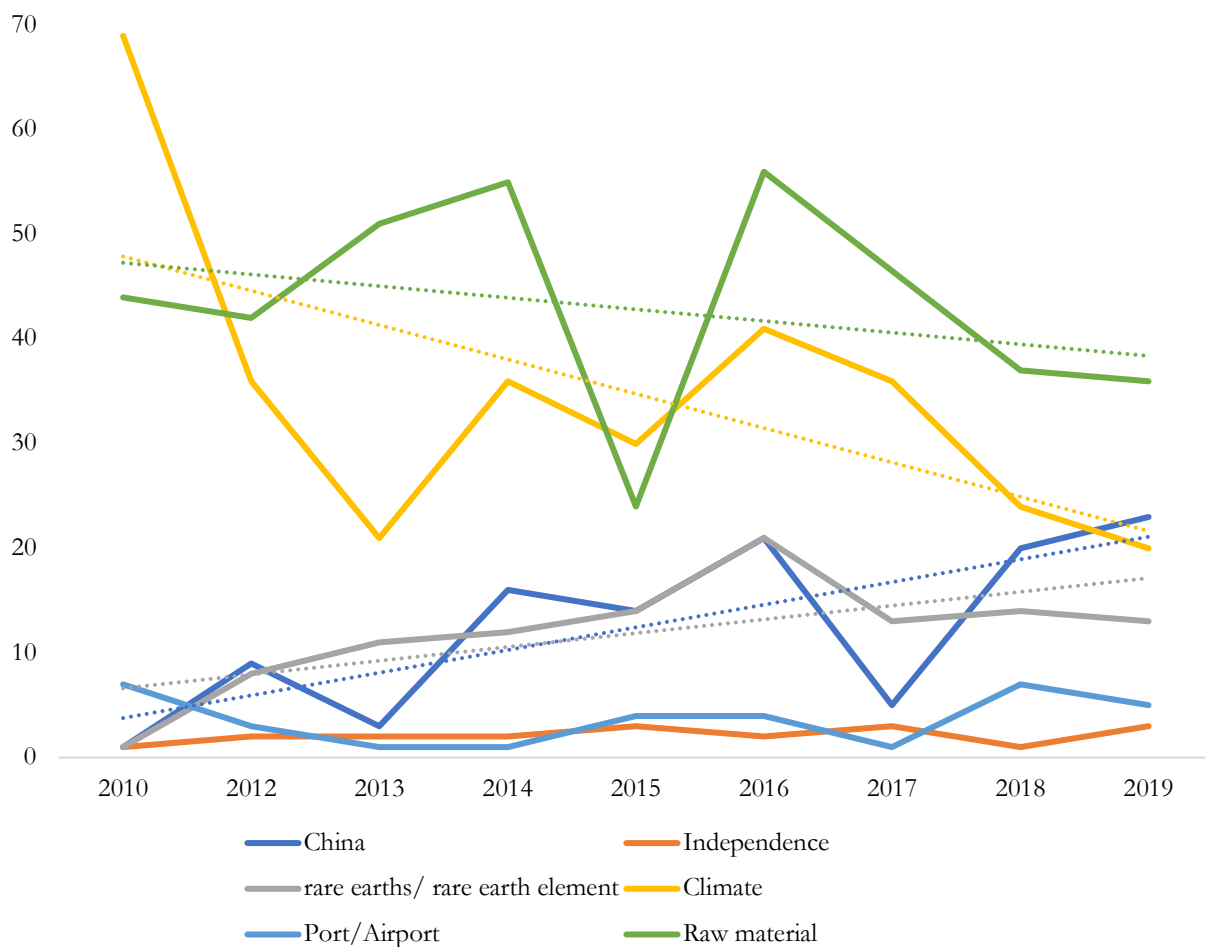


Figure 6.1 - Keyword frequency in Greenlandic annual foreign policy reports, 2010–2019

The early URs showed that Greenland was quite optimistic about climate geopolitics. The first UR, published in 2010, consisted of a long-term discussion of Greenland’s pathway to independence. The document referenced climate change on sixty-nine occasions and made clear that it was an essential part of this story. The 2010 UR also predicted that the positive effects of climate change for Greenland would become clearer over the following decade, as the Arctic was bound to receive “increased focus” from investors and foreign governments. For example, it assessed that “the EU’s interests in the Arctic originate from the future opportunities that climate change brings” (UR 2010).

After laying out the long-term strategy, subsequent URs gradually spent more time discussing short-term goals, so references to climate change grew less frequent. This indicated not that climate change was receding as an issue, but that it was a long-term trend with only incidental impacts on many shorter-term policy initiatives. The URs continued to refer to rising temperatures and the retreat of the Arctic sea ice as ambiguous, exogenous, long-term trends of great importance to Greenland's future. The implicit expectation was that climate change would, over time, bring both commercial opportunities, inclining non-Arctic states and multilateral actors to seek better relations with Nuuk.

The URs also discussed how Greenland would communicate these climate-related opportunities to the rest of the world. Private companies were already showing “unprecedented interest,” particularly in the mining sector (UR 2010). In 2009, the number of applications and active exploitation and exploration permits in Greenland reached a record high. But misconceptions about Greenland were still common. When the consultancy Branding Greenland surveyed investors in four Western countries, it found that hardly anyone had “very good knowledge of Greenland,” and most respondents associated the country with high costs, inaccessible terrain, and global warming (UR 2010).

At the Copenhagen Climate Summit in 2009, Greenland's Directorate of Minerals took part in an event “to highlight Greenland's legitimate need for economic development, including raw material exploration and exploitation,” amidst climate change. The crux of the Branding Greenland effort was that climate change would not have complex or risky geopolitical consequences for the region, so Greenland was a solid long-term bet for investors. This analysis, similar to Chinese and American discussions in the 2010–2012

period, showed that the Greenlandic government, like the others, did not anticipate how quickly climate change would become intertwined with great power competition.

Greenland acknowledged that climate change might have unpredictable geopolitical implications, but it expressed confidence that the United States would help manage any security complications. Washington, noted one UR, was concerned about the potential for terrorism in the Arctic, so a Greenlandic delegation had paid a “courtesy visit” to the United States Coast Guard to learn about counterterrorism in port security (UR 2010). In the early Obama administration, Greenland participated in a crisis management exercise organized by the U.S. National Intelligence Council to investigate how climate change would affect diplomatic relations between the Arctic states.

The 2011 and 2012 URs argued that Greenland should open its first diplomatic representation in Washington, since “it will be politically important and wise to strengthen the relationship and dialogue with a strong ally.” The suggestion was that the United States and the NATO alliance would remain Greenland’s primary guarantor of security after independence. This point was so obvious that it scarcely bore stating explicitly (interview with Vittus Qujaukitsoq).

Meanwhile, Kleist wanted to expand Greenland’s trade with Asia to reduce its economic reliance on Denmark. In 2011, Greenland’s Minister for Business and Raw Materials flew to China to present at a mining conference. China’s Minister of Land and Resources then visited Nuuk in April 2012 and invited Greenland to send a larger delegation. At that meeting, there were discussions about “the possibility of entering a cooperation agreement” between the two countries which “may include scientific studies” (UR 2013). “Asia is increasingly playing a political and economic role for Greenland,” read the 2014

UR. Royal Greenland, the national fisheries exporter, hoped to double revenue in Asia over the next five years. Greenlandic executives also participated in conferences and meetings with potential Japanese and South Korean business partners, but they saw China as the most promising potential partner. Greenlandic ministers visited China several times to present at trade shows and tourism expos (UR 2014). Their efforts reflected not only a short-term desire to open new export markets, but also a strategic interest in diversifying Greenland's economic relationships away from Denmark and the United States.

By 2012, the URs reflected a growing sense in Nuuk that Asian trading partners could be *political* partners, too. "The Arctic and Greenland have gained a whole new meaning in the global agenda, both because of the resources Greenland possesses, and the consequences of climate change," wrote the 2012 UR, the last one produced during Kleist's administration. "This is something that can be felt in the international arena, and pressure is steadily growing." Partly due to Greenland's outreach efforts, Asia "means far more to Greenland politically and economically now than it did just 5 years ago" (UR 2012).

A key reason for this sense of optimism was progress in the mining sector. Mineral prices continued to rise, and, in December 2012, the Greenlandic parliament passed a "Large-Scale Law" to ease restrictions on foreign investments in massive infrastructure projects. Together with efforts to revise the "zero-tolerance policy" on uranium exports, which parliament would take up the following year, this was seen as the first step toward major Chinese investments in Greenlandic mining. The next section will discuss how Greenland leveled up its engagement with China after the Large-Scale Law and grew more confident that climate geopolitics gave it leverage over Denmark and the United States.

6.6 The embrace of bargaining: 2013–2014

By 2013, the sense of optimism in Greenland bordered on euphoria. In April, Aleqa Hammond of Siumut, who advocated full independence as soon as possible, unseated Kuupik Kleist. Hammond's victory signified that Greenland "has certainly made up its mind" about its intention to break away from Denmark, wrote Maria Ackrén, head of the political science faculty at the University of Greenland. The only question left open after the election, Ackrén predicted, "is whether there will still be room for hunters and fishermen" or if mining would turn Greenland into "a new Saudi Arabia" (Ackrén 2015).

Greenlandic diplomats were aware that if the China–Greenland partnership flourished, the anticipated boom years could alarm the Danes and Americans. Greenland's "security policy is complicated by the interest of Asian major powers in Greenland and the region," the 2013 UR noted. Hammond did not believe that China directly threatened Greenland (interview with Aleqa Hammond). The concern was that Greenland's relationship with China might provoke Danish and American overreactions. But the report concluded that Greenland could reassure the Americans by opening a diplomatic representation in Washington. This analysis suggested that Greenland, like the United States, was still not expecting climate geopolitics to destabilize in the region.

Whether Greenland leaned toward China or the United States, the conflict of interest with Denmark was becoming increasingly obvious. The 2012 UR argued that "the countries of great importance to current and future Greenland" would be "the superpowers the U.S. and China" followed by "our neighboring country, Iceland." Canada, Germany, the UK, France, Russia, Japan, and "perhaps" South Korea fell into a "secondary tier of priority" (UR 2012). On economic matters, "Asia and North America" were deemed equally promising as

potential “new sources of investment and as new markets for export” (UR 2013). Denmark was conspicuously absent from this list. These statements reflected a profound sense of confidence—even hubris. Between the superpowers and the slate of secondary powers that wanted access and influence in the melting Arctic, Greenland could begin to conceive of a future in which it was independent from Denmark and the block grant.

If independence was really in reach, then it would soon no longer make sense for Greenland to let the Danish embassy mediate its discussions with the Chinese. “It must be possible for Greenland to pursue foreign policy,” the 2014 UR argued, ignoring the fact that this was legally a Danish competency under the Self-Government Act. Danish diplomats “do a good job,” it noted, including coordinating Greenland’s trade missions to China and other countries. But the fact that their activities are “partly outside the Greenlandic government’s control” risked “signal confusion,” giving partner countries the wrong idea about what Greenland wants, what it has to offer, and whether Denmark retains the power to veto its interactions with foreign partners. In 2014, Greenland announced that it would be a new “priority” to open a representation in Beijing. By circumventing the Danish embassy there, the report claimed, Nuuk could sustain “a much more controlled dialogue” with China “at all times” (UR 2014).

Meanwhile, under Hammond’s leadership, the URs began to articulate a bargaining strategy to capitalize on Greenland’s growing importance under climate geopolitics. The 2013 UR began by stating that the main objective of Greenlandic “foreign policy” in the coming years should be to prioritize initiatives that “promote the development of self-government towards a nation with economic independence...When Greenlandic decisions on

our own development are made...such decisions will be followed both in Copenhagen and in other more remote capitals in Asia and North America” (UR 2013).

The implication was that Greenland is a geopolitical wild card in a regional order being reshaped by climate change and should not waste the opportunity. The documents assert not only called for Greenland to look away from Europe for new sources of investment, but also asserted, with no legal basis, that Denmark’s authority over Greenland’s foreign policy was a formality that Greenland could revise at any time. “Even though the Danish government continues to have final responsibility regarding foreign and security policy issues,” read the 2013 UR, “Greenland must continue to be involved in issues that are of significance to Greenland. It is therefore only ourselves that set the boundaries of what we want to deal with in the realm of foreign and security policy.” In other words, Hammond’s government was asserting that Greenland was important enough to Arctic climate geopolitics that it could interpret Self-Government Act however it liked. Denmark had diminishing leverage to enforce the law.

Hammond’s provocative gestures were strikingly successful at attracting Chinese geopolitical interest to Greenland. As we saw in Chapter 4, Chinese analysts shared Hammond’s view that Greenland’s value would increase significantly under climate change. They also read her pro-China statements as evidence that Greenland was open to a wide-ranging partnership with China under a shared understanding of climate geopolitics. This made Greenland a more promising potential Arctic partner for China than Iceland, Sweden, or Norway, which had shown no equivalent interest. In the two years after the 2013 UR was published, Chinese state-run firms China acted on this assessment, trying systematically to invest in Greenland’s ports, airports, and mines. As Chapter 7 will discuss in more detail,

Greenland used these deals to show the Americans and Danes that it had options—and that it was willing to risk becoming dependent on China to get the financial support and diplomatic attention it wanted.

However, Hammond's strategy failed to anticipate how Arctic climate geopolitics would evolve as the superpowers began to make plans and take action. The Greenlandic government underestimated how aggressively China would push to establish a foothold in the country—and how hard the United States and Denmark would push back once they realized that China might harbor offensive intentions. Hammond's bargaining strategy also mistakenly assumed commodity prices would remain high, so Greenland would remain an attractive frontier region for private mining companies. This did not happen, meaning that during the years that followed Greenland had to reconsider and recalibrate its bargaining strategy.

6.7 Provoking the United States: 2015–2018

In 2015, Greenlandic foreign policy sharply changed tack, softening its approach to Denmark and reprioritizing relations with the United States over China. There were multiple reasons for this shift. Global commodity prices had fallen, reducing foreign investor interest in capital-intensive, high-risk mining projects like Isua and Kvanefjeld. Greenland had also failed to identify any commercially viable offshore oil fields, ruling out a potential fast-track to fiscal independence. Finally, Hammond had fallen from power in October 2014 amid allegations that she had used a government credit card for personal expenses. Kim Kielsen, also of Siumut, succeeded her as prime minister and Vittus Qujaukitsoq, previously Finance

and Home Affairs minister, took on a sweeping portfolio as Minister of Industry, Labor, Trade, and Foreign Affairs.

Meanwhile, the first signs were appearing that the U.S.-China geopolitical rivalry was spreading to the Arctic. Mindful that fiscal independence would take longer to achieve than Hammond had hoped, and that taking Chinese money would provoke the Americans and Danes, Kielsen and Qujaukitsoq adopted a less confrontational strategy. Their goal was to leverage Greenland's importance under climate geopolitics to extract concessions from Greenland's existing partners.

Qujaukitsoq believed that Greenland's growing geopolitical importance gave it new leverage to extract concessions from the United States. As foreign minister, one of his top priorities was to renegotiate the terms of the 1951 agreement between Washington and Copenhagen that guarantees the U.S. military access to Thule Air Base (known as *Pituffik* in Greenlandic). A skilled diplomat, Qujaukitsoq first stated unequivocally that Greenland wanted to improve and broaden relations with Washington. The two countries shared common interests, "Western values," and even history of Inuit identity, he wrote in the preface to the 2016 UR. Thule Air Base is important to the security of "our continent"—North America. Unfortunately, Qujaukitsoq argued, the "contractual relationship between the two countries" has "never fully met Greenlandic expectations" and goes beyond a "reasonable balance." Given "Greenland's contribution to the defense of...North Americ[a]," the U.S. should provide investments in infrastructure, closer cooperation on search and rescue, and better terms for Greenlandic contractors who service the base.

When Obama administration refused to negotiate, Qujaukitsoq threatened to terminate American access to Thule. "I cannot say on my own that the American presence in

Greenland is over,” he hinted darkly to a Danish newspaper (Hannestad 2016). “We are not at all there. But...if we do not achieve the desired Greenlandic requirements, the worst scenario is that we have to throw the Americans out.” The interviewer then asked whether the situation was really “that dramatic.” Qujaukitsoq gravely concurred. Greenland had suffered “75 years of frustration and powerlessness” in the face of “concealment and covert play on the part of Denmark,” he argued. Greenland had asked multiple times for more equitable terms but had never once been “taken seriously.” Greenlanders had no responsibility to tolerate a U.S. presence that had brought “nothing but trouble, nothing but environmental pollution,” for the better part of a century—particularly now, when climate change had made Greenland more geostrategically important than ever.

Qujaukitsoq never explicitly said that he would consider partnering with China if Washington did not acquiesce to his demands over Thule, but the implicit threat of geopolitical realignment was unmistakable. In 2016, Qujaukitsoq went on an eight-day, four-city tour of China to feature Greenlandic exports, that was arranged in partnership with the Danish embassy. “I can only say that Greenland has the best cards in hand, both by virtue of our size and our geopolitical situation,” Qujaukitsoq told his Danish interviewer. In this light, Qujaukitsoq was pursuing a less confrontational version of Hammond’s climate geopolitics bargaining strategy. The main difference was that he merely hinted at the threat of realignment rather than actively involving the Chinese.

Qujaukitsoq was nearly as infuriating to the center-right government in Copenhagen as Hammond had been. “Vittus is a very, very aggressive man on the issue of the independence,” the Danish defense minister at the time, Claus Hjort Frederiksen, later told me. He “does not harbor goodwill towards Denmark,” Frederiksen added, noting that foreign

minister Qujaukitsoq repeatedly overstepped his mandate under the Self-Rule Agreement. Fortunately for Denmark, Qujaukitsoq's bargaining strategy kept U.S. and Danish interests aligned. Both sides wanted to preserve the status quo of access to Thule. Neither side wanted to see Greenland build a relationship with China that was about politics as well as trade.

Qujaukitsoq's bargaining strategy met a premature end when he was forced to step down as foreign minister in 2017. The press reported that Prime Minister Kim Kielsen (Siumut) feared that his foreign minister's hard line on the Thule issue would invite retribution from the newly inaugurated Trump administration. The issue allegedly led to a personal falling-out between the two men. Qujaukitsoq then challenged Kielsen at the next Siumut party leadership elections. When that failed, he formed a new hardline pro-independence party with Hammond. He was elected to one more term in parliament, in 2018, and lost his seat in 2021.

Two Greenlandic politicians, speaking on condition of anonymity, described Qujaukitsoq's views as "slightly outside" the Greenlandic mainstream today. He remains one of Greenland's most respected elder statesmen, and a prominent spokesman and advocate for Greenland on the international stage. When I interviewed him in July 2021, he pointedly declined to criticize the incumbent IA government, and vigorously defended its foreign policy. In short, even though Qujaukitsoq failed to renegotiate the terms of U.S. access to Thule, he continued to communicate to Washington and Copenhagen that Greenland knew it was a valuable strategic asset in the context of a changing Arctic—and that sooner or later they would have to pay up if they wished to maintain their influence on its soil and its future.

6.8 Warming toward Washington, cooling toward Beijing: 2018–2021

After Qajaqkitsoq stepped down, Greenland's relations with the United States and Denmark rapidly improved. In 2018, Kielsen acceded to Danish pressure to block the leading Chinese bidder from the tender to rebuild the national airports network, an episode discussed in detail in Chapter 7. In September 2018, in a gesture of appreciation to Kielsen, U.S. Deputy Secretary of Defense John Rood published a letter promising to invest in military-civilian infrastructure in Greenland. In 2019, the U.S. State Department established a consulate in Nuuk, and Secretary of State Mike Pompeo excoriated China's activities in the Arctic and planned a visit to Greenland. Meanwhile, China pulled back. Most major parties and politicians in Greenland (though not Aleqa Hammond) celebrated these signs of growing U.S. interest.

The détente with the United States illustrated how Arctic climate geopolitics had taken yet another turn. First, China had assessed that climate change would make Greenland geopolitically valuable. Next, Greenland had recognized this and called attention to it by ostentatiously soliciting a partnership. By 2018–19 the United States had recognized what the Chinese and Greenlanders were thinking. It also determined that if its own climate geopolitics strategy for the Arctic involved keeping China from developing a regional foothold, it would need to pull Greenland into an exclusive U.S.-centric orbit.

As the prospects of further cooperation with the United States improved, Greenlandic politicians began to express more skepticism about China. Until late 2018, Greenlandic politicians of all major parties had pointedly dismissed suggestions that cooperation with China could carry risks. "In Greenland we don't suffer from China anxiety, like they obviously do in the government in Copenhagen," Aaja Chemnitz Larsen (IA), one of Greenland's two elected MPs in the Danish parliament, observed in 2018. The Danes "lack

an understanding for Greenland's need for investments, and we can sense a big interest in China for our projects" (Matzen and Daly 2018).

But almost immediately after the Kalaallit airports episode was resolved, Greenlandic elite sentiment toward China began to sour. "The Danish government says that you need to be aware about [the implications of accepting] Chinese investments in critical infrastructure. I think that's something that we need to dive into and educate ourselves about, as Greenlandic decision makers," Chemnitz Larsen told me in July 2021, in a remarkable turn from her comments just three years prior. "Is Chinese investment helping or hindering African countries in their development? If we were to say yes to critical infrastructure investments from China, is there something that we can learn from other countries [about the opportunities and risks]? Are there similarities, or maybe we are in a totally different and unique situation?" Concluding the conversation, I asked Chemnitz Larsen if she had a message for China. She paused for a moment. "We would like to look at ways of collaborating," she said. "But to be frank, we are quite skeptical."

Greenlandic politicians and experts offer several explanations for this shift in sentiment. Walter Turnowsky, a report at *Sermitsiaq*, believes that Greenlanders "have grown more aware of the Chinese agenda" and China's claims that it has a "legitimate right" to pursue a presence in the Arctic. "That changed the Greenlandic perception," he argues (interview with Walter Turnowsky). Another explanation is Denmark's hawkish turn on China policy: in March 2019, Copenhagen decided not to pick Huawei to operate its 5G network. A third explanation was the deterioration in U.S.-China relations, exemplified by U.S. Secretary of State Mike Pompeo's confrontational speech at the Arctic Council

Secretariat in May 2019. These moves all hinted that the United States believed that it was engaged in a global geopolitical competition with China.

Together, these developments persuaded some Greenlandic politicians—including Vittus Qujaukitsoq—that superpower rivalry had advanced to the stage that Greenland could no longer safely play both sides against each other. “We can never be part of a Chinese sphere, or a Russian sphere, because of ideology and our geographic position,” Qujaukitsoq told me in July 2021. This was a big shift from the threats he had made to the United States just a few years early. “Greenland ought to welcome any investment,” he added. “But of course, we need due diligence about how to protect our sovereignty... We have seen what has happened with Africa and many other small nations around the globe, as Chinese investments take over vital infrastructure. It can be your treacherous inviting the enemy in.” I asked whether Qujaukitsoq believed that China was “the enemy.” He demurred. “This does not necessarily mean that Greenland shares the American view of China,” he clarified. “But I think it’s important to choose a side in all our doings.”

In my interviews in Nuuk in summer 2021, many Greenlandic politicians said they perceived that China had stepped back from its engagement with Greenland after it was blocked from the Kalaallit Airports contract in 2018. Some thought that China’s turn away was permanent. When I asked the Minister of Natural Resources, Naaja Nathanielsen (IA), whether Greenland could “play the China card,” she shook her head. “I’m sure there was” once a way that Greenland could play the China card, she told me. “But I’m not sure it would be an interesting card to play anymore. I don’t see enough interest from China—in our industry or in the investment sector—to think that it’s even an option” (interview with Naaja Nathanielsen).

Høegh-Dam, a political consultant with links to Siumut, partly agreed. “The aggressiveness from the Chinese government has dissipated in the last year or two,” he told me in July 2021. “My impression is that the Chinese are being very careful because they don’t want to lose opportunities in the future. But let’s not be naïve and think the Chinese are letting their interest go. They want the resources. They’re trying to get in Greenland, and in general into the Arctic. They are invisible today, but they will try to get in tomorrow” (Interview with Qarsoq Høegh-Dam).

The Greenlandic politicians and civil servants I interviewed expressed no consistent assessment of how China sees Greenland, or what exactly China wants. “Greenland has never been regarded as a viable [political] partner by the Chinese government,” Qujaukitsoq told me. “We have never met the Chinese government representatives on a high level. So it makes no sense to discuss Greenland-China political connections. Our government has only ever met funds or banks to discuss cooperating on specific issues.”

To Qujaukitsoq, who believes that it is time for Greenland to throw in its lot with the United States, this is a good thing. “If Greenland *had* a direct governmental link with China, that would put Greenland at a much higher risk than we are today.” Qujaukitsoq believes that China might try to coerce Greenland if it gets enough geoeconomic leverage. “We have been treated fairly and very positively in China,” he told me. “But behind the scenes we had some...incidents.” For example, after one of his trips to China, he had planned to make a short trip to Taiwan. Beijing strongly opposed the trip. “It led to me not going to Taiwan, because of the prospect of interference with our seafood companies in China, and what it could mean for investments from China to Greenland,” Qujaukitsoq recalled. “There was no direct threat. But there was an underlying assurance that our every move would be looked at

with a skeptical point of view, which could have precautionary effect on Greenland one way or another. So yes, it is there is risk in dealings with China, that we could be pressured.”

The limited survey data suggest that the Greenlandic public broadly agrees. In February 2021, researchers from the University of Greenland published the country’s first-ever public opinion poll on foreign and security policy (Ackrén and Nielsen 2021). They found that Greenlandic views of the United States were extremely positive. Sixty-nine percent wanted more cooperation with the United States, and 68% believed that Greenland should keep its current alliances in foreign and security policy rather than “seeking new ones.” Views of China were mixed: 53% of the Greenlanders saw “China’s increasing influence in the world” as “a positive thing,” and only 18% believed that Greenland should “follow the U.S.” policy toward China. Only 32% believed that Greenland should welcome Chinese investments. Together, these findings imply that the Greenlandic public broadly thinks the country should lean towards the United States and treat China with caution. Yet there seems to be no popular animus toward China and it is still widely seen as a promising potential partner.

6.9 A new strategy: 2021

Elections in April 2021 brought IA back to power. The young, charismatic, and multilingual Múte Egede became prime minister, forming a coalition with the hardline pro-independence Parti Naleraq party. The election campaign was dominated by discussion of the controversial Kvanefjeld rare earths and uranium mine, discussed in detail in Chapter 7. Egede promised to halt the project on environmental grounds, and he delivered on the promise almost immediately after taking office. A Chinese state-linked firm, Shenghe

Minerals, is both a minority shareholder in the project and the contracted partner to process the raw material produced by the mine. Egede's IA party had long supported a moratorium on the mining of radioactive materials. The broad thrust of the new government was to continue the gradual pullback from engagement with China and to double down on Greenland's bargaining strategy with a focus on the United States.

As of January 2022, Pele Broberg (Naleraq), Egede's energetic and ambitious foreign minister and leader of the Naleraq party, is spearheading the new independence strategy. Broberg is "on a confrontation course with the Danish government," according to one knowledgeable source familiar with his thinking. His attitude is that "we don't need to solve all every problem before we go independent," another knowledgeable source put it to me. Broberg "thinks you cannot wait until all is good [and until Greenland is fiscally self-sufficient of Denmark], because you can always do better." Thus, Greenland should seek to negotiate formal independence while keeping the block grant and allowing Denmark and the United States to retain unlimited, exclusive access to Greenland for security purposes.

Broberg's model for an independent Greenland is Palau, an island nation of seventeen thousand inhabitants in the Western Pacific.³⁶ Upon its independence in 1994, Palau entered a fifty-year "Compact of Free Association" (COFA) with the United States under which the U.S. Department of the Interior "provides economic and financial assistance, defends Palau's territorial integrity, and allows uninhibited access by Palauan citizens to the United States" in return for "exclusive and unlimited access to Palau's land and waterways for strategic purposes" (U.S. Department of the Interior 2021).

³⁶ Perhaps ironically, Palau maintains has diplomatic relations with Taiwan and mistrusts Beijing intensely.

In the 2021 Greenlandic election, Broberg even hired a public relations firm to produce a cartoon advertisement explaining Palau's arrangement with the United States. No current or former U.S. officials have indicated that Washington would be interested in such an arrangement; to say so would be to provoke an immediate diplomatic crisis with Denmark, akin to Trump's offer to "buy" Greenland in 2019. Yet U.S. diplomats are keenly aware that the COFA framework is potentially useful for cementing partnerships with small island states where China has shown an interest. As we will see in Chapter 8, several former U.S. officials have advocated offering an attractive COFA arrangement to Kiribati to prevent China from gaining a foothold there.

With the prospect of a COFA with the United States on the table, Broberg believes that Greenland should "play hardball" to extract concessions from Denmark. As one source familiar with his thinking put it to me:

Pele's analysis of Donald Trump...is that the U.S. is now so strategically interested in Greenland that it will support Greenland no matter what. If, for instance, Denmark says that an independent Greenland would lose access to the Danish healthcare system—he can simply call Washington and ask what they can offer.

As of this writing, none of these negotiations are yet public. Yet, Broberg's moves toward the United States have caused as much fear and consternation in Copenhagen as Qujaukitsoq's flirtation with China did in 2015 (interview with Michael Aastrup Jensen).

The Egede government formally denies the existence of climate geopolitics. Speaking on behalf of the government, Naaja Nathanielsen, Minister of Housing, Infrastructure and Natural Resources, insisted to me that both climate change and great power competition are more risks than opportunities for Greenland. IA stands for "the deeply rooted idea" in Greenlandic culture that "you should take care of your surroundings," even at a high cost, Nathanielsen told me. Climate change "of course represents opportunities" for Greenland,

she admitted, “but it also will produce negative consequences for our economy and way of life.” She cited the impact of the thinning sea ice on hunters and fishermen in North Greenland. “We might have passed the threshold to stop climate change,” she added. “But if we don’t do anything to *mitigate* [i.e. adapt to] the effects of the climate change, we are all screwed.” The IA government therefore believes Greenland should contribute its share to global climate mitigation, even though its emissions are a negligible share of the global total.

Others in IA go further, arguing that the U.S.-China rivalry in the Arctic is a security nightmare for Greenland. As Former Prime Minister Kuupik Kleist put it, “Greenland is at the center of great power struggles over the Arctic like it was during the Cold War,” and the United States is trying to get its allies “back on the Cold War [band]wagon” (Jacobsen 2019b). Kleist believes that Greenland should work with Denmark to resist U.S. efforts to remilitarize the Arctic. “Now [the Americans] are...showing interest in helping to extend our infrastructure,” Kleist added. “That sounds nice, right? In reality, the Americans are saying: ‘Oops, we scaled down our armaments too much in Greenland. May we rebuild some of it?’ The reason for that is the so-called Chinese threat.” Kleist believes that Greenland should reject U.S. offers for infrastructure financing, since it could make Greenland a target. “It is not at all in the interest of Greenland as far as I am concerned,” he said (Jacobsen 2019a). Kleist’s comments also suggest that he disagrees with Pompeo’s warnings about the risks of inviting China into the region. In Chapter 8, we will see that the Faroe Islands and Iceland have adopted similar hedging strategies, hoping to avoid taking sides in the superpower rivalry.

At the same time, even Kleist acknowledged that the fast-changing geopolitical situation was not pure downside for Greenland. Jacobsen followed up on the previous

exchange, asking if he thought Greenland could potentially “use the increased international Arctic attention to its own benefit.” Kleist responded that this was possible—as long as Greenland followed a different strategy to Kim Kielsen’s no-drama approach. To keep from being victimized by the emerging “Cold War” great power competition, Greenland would need to “handl[e] the attention actively instead of acting as a passive commentator on the [sidelines],” he said. Whether he was referring to a bargaining strategy, or to something else, Kleist’s comments left open the possibility that a more skilled Greenlandic government could play a climate geopolitics bargaining game.

Other IA party leaders, speaking individually, acknowledge that climate geopolitics exists and could still potentially be useful for Greenland. “If you look at [climate change] only from a Greenlandic perspective, I would say it’s mostly an opportunity,” said Aaja Chemnitz Larsen (IA), who has represented Greenland in the Danish Folketing since 2015 (interview with Aaja Chemnitz Larsen). “It’s also a great threat, of course, to the whole world, and also to Greenland. We’ve seen various natural disasters, most recently with a landslide in Greenland [due to melting permafrost]. But I think there are opportunities when it comes to climate change, though I know it’s not always politically correct to talk about it.”

Vittus Qujaukitsoq, in remarks that broadly defended Egede’s strategy, also denied to me that climate change is a geopolitical issue. Yet his answer to my question suggested that we were speaking about different things. “I had a colleague who had to leave the cabinet for saying that he supported Trump’s view on climate change,” Qujaukitsoq told me. “I think it was the most foolish thing I heard during my time as the minister.” The science of climate change is “undeniable,” he went on, and is likely caused by a combination of “human

carelessness” and natural cycles. Qujaukitsoq believes that Greenland should adapt, following the science.

Warming weather is undoubtedly making Greenland a more attractive destination for tourists, underscoring the need to build more transport infrastructure. As the sea ice thins and eventually disappears, it is “inevitable” that the Northwest Passage will become more accessible. These trends, Qujaukitsoq suggested, are not “geopolitical” because they do not change Greenland’s obvious need to stay closely aligned with the United States and NATO. Yet these comments are hard to square with Qujaukitsoq’s past comments, particularly his provocative 2016 remarks introduced above that are worth repeating here: “Greenland has the best cards on hand...both by virtue of our size and our geopolitical situation.” More likely, Qujaukitsoq was echoing the sitting government’s talking points, and hoped to persuade me (an American interviewer) that Greenland would be a loyal partner to the United States, not an opportunistic one.

Taken as a whole, the Greenlandic discourse about climate geopolitics has some parallels with the American discourse. Politicians use strikingly different language for talking about the issue. The more environmentally conscious ones deny that climate change has any connection to geopolitics. These individuals tend to argue that climate change itself is the primary threat and that geopolitical concerns that arise from it are a distraction; governments should focus on mitigating climate change while they still can. This view also tends to resist any characterization of climate change as an opportunity. However, reading between the lines, there is a striking degree of consensus across the Greenlandic political elite that climate change and superpower rivalry are interconnected issues that will profoundly shape the future of the Arctic.

These dynamics are now clearly riskier than the most optimistic Greenlanders hoped in 2013 and 2014, so Greenland needs to tread carefully. In the long-term, climate geopolitics is clearly a favorable trend for Greenland, and Greenland's leaders plan to keep playing versions of climate geopolitics bargaining games as they angle for independence.

6.10 The argument for realignment

Though pro-China sentiment is now far from the mainstream in Greenland, a powerful strain of it bubbles beneath the surface. This is particularly true within Siumut. Former Prime Minister Aleqa Hammond believes that Greenland needs independence not only for reasons of identity and heritage, but also because “Danish interests in the Arctic do not necessarily coincide with ours.” Denmark has power within NATO—and influence with the United States—primarily because it controls foreign and security policy in a strategically important area of the Arctic.

Hammond acknowledges that the Self-Government Act offers no pathway for Greenland to retake these competencies before it achieves formal independence for Denmark. Therefore Denmark is incentivized to obstruct Greenland from developing a self-sufficient economy. Once Greenland is capable of standing on its own economically, she believes, the mere possibility of Greenlandic independence will “play hazard with Denmark’s popularity and influence in international politics.” Thus, if Greenland is to achieve independence, it cannot expect Danish help, and will need another partner.

Hammond believes that U.S. and Danish interests in Greenland are essentially identical. “Today, America is benefitting from Greenland without providing anything in return,” she told me. Beyond maintaining access to Thule and denying China and Russia a

foothold in Greenland, the Americans, like the Danes, “really don’t care about helping out Greenlandic hunters or youth. If they did, they could have done it many years ago.” The United States will continue to pursue its own interests, she believes. It makes little difference whether the president is Obama, Trump, Biden, or someone else. As a result, she thinks Egede and Broberg will fail in their bid to pit Washington and Copenhagen against each another. The two colonial powers both benefit from the status quo that Greenlanders find so untenable. “Denmark just does what NATO wants,” says Hammond. “And that means what Washington wants.”

By contrast, Hammond thinks China is an attractive economic and geopolitical partner and does not threaten Greenlandic sovereignty any more than Denmark or the United States. China is the “fastest-growing economy in the world” and is patiently preparing to be a “strong player” in the Arctic over the long term. When the Silk Road on Ice becomes operational in the future, “Greenland should get a big piece of the cake economically for the right to use our waters and services.”

Hammond also believes that China will pay a premium for Greenland’s rare earth minerals. “Right now, China has the monopoly worldwide on rare earths production,” said Hammond. “Greenland could break China’s monopoly. That is why China is so interested in getting its foot in the door in Greenland and having influence here.”³⁷ On economic terms alone, Greenland’s interests in partnership with China therefore do not align with Denmark’s

³⁷ Notably, Kuupik Kleist (IA) agrees with much of this logic. Though he declined my request for an interview, he made a similar argument to Danish scholar Marc Jacobsen in 2019. “China currently has a kind of world monopoly” on rare earths exports, he said. The United States is also “occupied with so-called strategic minerals which are considered to have a significance to the position of the American defense.” “I do not think it is possible to scare off the Chinese,” Kleist believes. “They have...another culture than the Americans. They are way more patient, move below the radar, and do their business nice and easy. For instance, they buy a license to a giant iron ore deposit and then they put the license to sleep...Suddenly one day will come when it is strategically interesting to make use of this license.”

and the United States'. "Why shouldn't we do any business with China, the fastest growing economy in the world?" Hammond asked me, rhetorically. Denmark's argument is that China "is a non-NATO nation and a non-European nation that doesn't share NATO's values." But Greenland does not share these prejudices. Nor does it have the luxury of spurning a big potential partner. "It will not be a problem for Greenland to invite the Chinese in, or to invite any other nation in as long as they follow Greenlandic laws," she stated. "China is already here. We have Chinese labor working in fish factories of Umannaq and Upernavik. And we are very happy that they are here, because if it was not for the Chinese labor, our fish factories would not be running day and night." Even on repeated questioning, Hammond refused to articulate any "endpoint" or "natural limit" to how far she believes Sino-Greenlandic cooperation could go.

As a political or strategic matter, Hammond thinks that Greenland's strategy before and after independence should be to play the United States and China against one another. China is the United States' "economic enemy number one, worldwide," Hammond argued. China's rise "threatens the United States position, and if the Americans do not prevent it, the Chinese will win the investment race in the Arctic, once they have opened the doors to Greenland." With no preference about who wins this superpower rivalry, Greenland should lean toward whichever side offers the "greatest influence and opportunity."

Hammond claims that she developed and executed strategy as premier between 2013 and 2014. "I played my cards right," she told me. By "talking to the Chinese, but not necessarily having to make an agreement with them," Hammond believes she sent a message to Washington and Copenhagen that Greenland would keep threatening to realign toward China unless they opened their coffers and started to acknowledge Greenland as a peer. The

United States has not decided to open a consulate in Nuuk “because they have decided that we’re very nice people,” Hammond continued. “It’s a signal to Beijing that this is American territory.” She also argues that Greenland used this playbook successfully in the Kalaallit Airports case, discussed in Chapter 7, to get favorable financing terms from Denmark.

If Greenland can extract tangible concessions by playing the superpowers against each other, then it has only scratched the surface of the potential opportunity. “I do believe that [the airports deal] is just one step,” she told me. “We can get so much more out of” the U.S.-China rivalry as the Arctic warms. “We could build a greater university. We could build new hospitals, if we would only play our cards so as to make the superpower countries play against each other.”

Hammond acknowledges that there are limitations to her approach. Pulling off a bargaining strategy requires both sustained political will and a realistic “understanding of how international politics work.” It also risks angering the superpowers and potentially causing one or both to seek retribution against Greenland. Still, Hammond believes that the opportunities of bargaining far outweigh the risks. The fastest way for Greenland to get “more goodwill, money, and economic and political influence than we have today” is to learn to “play its cards right.”

Time is on Greenland’s side in the bargaining game, Hammond argues, because the island’s strategic value is appreciating as climate change unfolds. “Thank God for climate change!” She exclaimed, without a trace of sarcasm, when I asked her whether the warming climate was favorable or unfavorable for Greenland. “It’s a bit ironic,” she continued, “Greenland has been knocking on many doors, in many countries, for many years, to try and to get influence and talk about Arctic issues. All of those doors have been closed.” Now, “the

world is finally discovering the Arctic,” she said. The United States is realizing that “Russia is a step ahead, and China is two steps ahead,” in adaptation. In short, Hammond believes that climate geopolitics offers the most viable path to Greenlandic independence.

Even as we spoke, in July 2021, Hammond did not believe that the United States and its European partners had fully grasped the importance of climate geopolitics for the Arctic and for their national interests. “The superpower countries still make decisions about environmental issues based on what they *feel* right now. Climate change, they say, is too bad—too bad for the poor seals, too bad for the polar bears and the whales.”

Like the Chinese scholars in Chapter 4, Hammond believes that countries ultimately follow their national interests, even though domestic politics or false impressions can temporarily delay the inevitable. She is therefore optimistic that as the United States comes to terms with the reality of climate change—and the real risk that Greenland could partner with China—it will be willing to offer even more concessions and even possibly facilitate Greenlandic independence.

Hammond acknowledges that climate change is disrupting the traditional Greenlandic way of life, but she argues that the “positive changes” resulting from climate change outnumber the negative ones. “The reason why we Greenlanders have managed to survive in the Arctic is because of our ability to adapt to the environment, however it changes,” she explained. “We read the environment; we adapt to the environment.” She then reeled off a list of ways that climate change could be economically and geopolitically advantageous for Greenland. As the ice sheet retreats, new territory will become accessible, she noted. Greater flows of meltwater running off the ice sheet will widen rivers that can be dammed for hydropower. New species of fish are entering Greenlandic waters as warming oceans and

shifting currents change migration routes, creating new opportunities for the fisheries industry in North Greenland. Higher temperatures also mean better circumstances for sheep farming and growth of vegetables in South Greenland. Hammond's overall assessment is that Greenland's process of adaptation to climate change will be painful and disruptive, but the potential of climate change to bring about a sovereign, majority-indigenous, and prosperous Greenlandic state will be worth it in the end.

Retired from politics since 2019, Hammond is now considered to fall outside the political mainstream (interview with two anonymous Greenlandic politicians). She admitted as much to me when I asked her directly if any other major politicians shared her views. No one currently in the Greenlandic parliament has the rare ability "to see [their own] country from the outside, as foreigners do," she told me. Nor are they ruthless enough to pull off her bargaining strategy.

Nevertheless, other Greenlandic politicians and consultants are sympathetic to Hammond's views, particularly when invited to speak off the record. "There are no climate deniers in Greenland," former Siumut politician Qarsoq Høegh-Dam told me. "Right now, we are reaping some economic benefits from climate change. For the world as a whole, it's obviously negative. But for us, it's not just a negative story." Høegh-Dam agrees that "Greenland's value has risen" due to the fortunate combination of great power competition and climate change. "If the same climate change were happening twenty or thirty years ago, it would be just the U.S. controlling everything. But China has emerged, so now the power structures have changed," he argued, in a neat encapsulation of climate geopolitics. Now, "people in Greenland are realizing that this isn't bullshit. Denmark told us, 'shut up, you're

nothing.’ But now the world—the Chinese, the U.S. the Russians—is telling us: ‘You’re valuable. Join us.’”

I asked whether Høegh-Dam agreed with Hammond that Greenland had “played the China card” successfully in the airports deal. “Oh, we have not yet played the China card,” he responded, with a smile. “We have not yet even played the U.S. card...When the scales are tipping, then we’ll play the China card...Let me say it bluntly—if the price is right, everyone will be open to foreign investment from China or elsewhere, and the government will change its position. There is a scenario in the future in which Greenlanders are open for Chinese investment, and the Danes and the United States tell us not to take that Chinese money, and Greenlanders say: ‘Fuck you. Middle finger. Come, China. Come and invest.’”

The pro-China contingent remains a minority in Greenland. Since 2018, China has pulled back its commercial and economic engagement and climate geopolitics has receded as an issue in the Greenlandic public conversation. Hammond and Høegh-Dam are both retired, controversial politicians that are no longer considered mainstream even within the relatively pro-China Siumut party. Nevertheless, their comments reveal that the opportunistic streak that has characterized Greenlandic foreign policy thinking since the referendum has not disappeared. As even Minister of Natural Resources Naaja Nathanielsen (IA) admits, there is no dispute that the “China card” is a potentially valuable one for Greenland. The question is: under what circumstances China might be willing to play along? If Hammond and Høegh-Dam are right, then both China and Greenland still recognize the potential for a partnership. Both are simply biding their time.

6.11 Conclusion

This chapter has shown that Greenland has significant agency in Arctic climate geopolitics. Tracing the Greenlandic elite discourse from 2008 to the present, and drawing on elite interviews, government publications, and periodical sources reveals that Greenlandic politicians from both major parties have tried to exploit climate geopolitics by bargaining with the superpowers and pitting them against one another. Greenland also used these tactics to assert autonomy from Denmark and demand a more prominent role in the domestic politics of the Danish Realm. Many Danish and Greenlandic politicians are reluctant to name and legitimize the concept of climate geopolitics. To Denmark, climate geopolitics poses a far bigger risk than an opportunity, because it creates new pathways for Greenland to achieve independence. To many Greenlandic politicians, too, climate geopolitics is a distraction from the more pressing issue of climate mitigation.

Greenland's ability to exploit climate geopolitics has also been constrained by domestic politics. Indeed, Greenland's foreign policy over the past decade has been ad hoc and inconsistent, reflecting domestic debates, factional politics, and election results. Prior to the 2008 independence referendum, Greenland did not have a foreign policy at all. Post-referendum, Greenland has not been permitted to have a formal foreign policy under Danish law, but it has pursued a quasi-official one through state institutions. The Greenlandic government's discussions with other countries have been mostly about matters of trade and investment, but they have not hewed to consistent strategies, tactics, or negotiating positions. In particular, Greenland's policies toward mining, and oil and gas exploration, much like its public diplomacy toward the United States and China, have oscillated between welcoming, suspicious, and hostile. Domestic factors are fundamental to Greenland's understanding and

practice of climate geopolitics. This principle likely applies to climate geopolitics in other small states as well.

Nevertheless, the chapter has shown that Greenlandic elites across political parties understand the dynamics of climate geopolitics and take for granted that the intersection of climate change and geopolitics will be a defining feature of Greenland's future. This is because climate geopolitics is intrinsically bound up with the fate of Greenland's independence project. Even the most fervently pro-independence official I interviewed assessed that Greenlandic independence will not be practically possible for another 15 years, if not longer (interview with Vittus Qujaukitsoq).

The question of what sort of independent country Greenland might one day become, and how it might get there, lies in the realm of speculation about the far-future. To justify their preferred pathway to independence, and the foreign policy implications of that pathway, politicians need to tell stories that combine practical assumptions with assessments of cultural values and preferences. These speculative possibilities and narratives are inseparable from assessments of Greenland's changing environment and the ambiguous, exogenous, long-term trends shaping the future of the broader Arctic.

CHAPTER 7

Operationalizing Climate Geopolitics: Three Chinese Ventures in Greenland

7.1 Introduction

This chapter considers how climate geopolitics works as a dynamic process of interaction between superpowers and small states. It treats the three most prominent Chinese attempts to invest in Greenland as case studies, which include: the potential land sale of the Grønnedal port; a deal to finance and build critical infrastructure in the form of the Kalaallit Airports, and cooperation on mining and processing strategic resources at the Kvanefjeld rare earths mine. All three Chinese efforts were thwarted, for different reasons. Each case study is presented as a short summary followed by a longer discussion. The concluding section analyzes the three cases together and proposes some general hypotheses about how climate geopolitics is operationalized.

The main argument of the chapter is that climate geopolitics is a necessary explanatory variable in the ideation, negotiation, and conclusion of the three cases. China's motivations in all three projects in Greenland were connected to its climate geopolitics strategy. As the United States and Greenland came to recognize this, they adjusted their own climate geopolitics strategies accordingly. By 2018 all parties believed that the projects stood for something much bigger than the land, infrastructure, or mineral resources under discussion. The cases illustrate how climate geopolitics can confer regional and even global significance to obscure, hyper-local deals between superpowers and small states in remote parts of the world. This analysis also indicates how superpowers attempt to operationalize climate geopolitics in climate-exposed small island states in many ways, including ventures and partnerships that have little direct relationship to climate change.

Climate geopolitics was not the only factor that determined the project outcomes in this chapter. One of the three key features of climate geopolitics is that it is a long-term phenomenon. Local officials and communities are often inclined to prioritize more pressing matters, or to view deals that are of great geostrategic significance to the superpowers in terms of their localized impacts. Even when they appreciate a deal's broader strategic implications, local officials often put more weight on tangible domestic political considerations. Events such as elections, scandals, and cabinet shakeups can become critically important for understanding why some superpower projects in small states fail and others succeed. To paraphrase the American politician Tip O'Neill: all climate geopolitics is local, even when its structural drivers are global (Matthews 1999). It is a question of how states internally balance competing interests to manage temporal uncertainty about long-term but ambiguous trends.

These findings have implications for the theory and empirical methodology of climate geopolitics. Chinese analysts predicted that the projects would reach successful outcomes because they believed it was in Greenland's national interest under climate geopolitics to make them succeed. This was wrong. To predict the outcomes of the Grønnedal, Kalaallit Airports, and Kvanefjeld projects correctly, China needed more information, namely: a grasp of Greenlandic domestic politics, an understanding of Greenland's complex relationship with the Danish Realm, and an appreciation for how U.S. policy toward Greenland would evolve once Washington diagnosed China's strategy. Furthermore, China needed to regularly update its assessments based on changing events on the ground. The cases illustrate that climate geopolitics is a dynamic process, not a static one.

7.2 Summary of the Grønnedal case

China made its first major attempt to acquire critical infrastructure in Greenland through a private enterprise. In 2015, General Nice Group [俊安集团], a Tianjin-based and Hong Kong-registered mining company, bought a controlling stake in the bankrupt London Mining Company, which owned the Isua iron mine near Nuuk. General Nice indicated that it had ties to the Chinese government and wanted to arrange for Chinese government scientists to visit Greenland to advise the government on mineral exploration. In 2016, the company contacted the Danish government to express interest in buying Grønnedal, a small, abandoned Danish naval base about one hundred kilometers southwest of the Isua mine.

China's attempt to buy Grønnedal was unquestionably based on geopolitical motivations. China's strategic analysis also met the criteria I proposed in Chapter 1 to establish the presence of *climate geopolitics*, calculating that Greenland's changing geography would have cascading impacts on other states' behavior. Denmark and the United States recognized China's geopolitical interest in Greenland, though there is only weak evidence that they saw a connection between China's interest and future climate change. Denmark rejected China's offer even before it was formally announced, explicitly at the behest of the United States. Thus, the proposal was effectively dead upon arrival. The Grønnedal case was significant mainly because it alerted Greenland and the United States to China's geopolitical interest in Greenland. The next time China explored a major strategic project in Greenland—the Kalallit Airports—Greenland was prepared to bargain harder and the United States had begun to recognize that it needed a climate geopolitics strategy of its own to push back effectively.

7.3 Discussion of the Grønnedal case

Grønnedal has long been considered a desirable site for a naval facility. The United States military built the base there in 1942 to secure its flight routes to Europe and defend a nearby cryolite mine.³⁸ After the war, in 1946, the United States made Grønnedal one of its two operational centers in the new “Greenland Naval District” (Taagholt and Hansen 2001). In 1951, the United States and Denmark signed a defense agreement that transferred the base to Denmark (Department of State 1951). As the headquarters of the new Danish Greenland Command, Grønnedal became the home base for Denmark’s naval reconnaissance, sled patrols, and signals intelligence in Greenland. It was also a resupply point for NATO anti-submarine ships operating in the North Atlantic for much of the early Cold War.

Nevertheless, in 2009 the Danish government announced plans to abandon Grønnedal. The cryolite mine was no longer operational and the cost of maintaining the remote facility no longer justified the benefit. Despite the favorable geography of the harbor, the facility was disconnected from the larger settlements in Greenland. Over the next five years, the Danish armed forces transferred their equipment and staff to other facilities in Nuuk and Kangerlussuaq, also on Greenland’s west coast. In 2014 Danish Defense turned off the water, electricity, and heat, closing the base for good (Sermitsiaq 2014). In January 2016, only months before General Nice made its offer, Danish Defense Minister Peter Christensen testified to the Danish Parliament that “the [Ministry of Defense] has no need for or desire about continuing Grønnedal—fully or in part” (Breum 2016). In June of that year Danish Defense published a “comprehensive analysis on the defense needs in Greenland and the Faroe Islands” that did not cite any strategic or operational use for the Grønnedal facility.

³⁸ The Americans called the site “Blue West 7.” In Greenlandic, the site is called “Kangilinnguit.” I use the Danish name.

Danish politicians discussed expensive plans to destroy the remaining buildings and port facilities. Under pressure from Greenlandic politicians to clean up oil and other environmental pollution at the site, in 2015 Danish Defense issued a tender for private contractors to run the clean-up, which was expected to take several years and cost 300 million DKK (Petersen 2015). These actions clearly suggested that Denmark did not fear that climate geopolitics could revive military tensions in the region and make the base necessary again.

After destroying the military infrastructure at Grønnedal, Denmark planned to sell what remained of the facility to private buyers (Sermitsiaq 2016). Yet there was no indication of which private entity or entities might be interested. The facility was polluted, located far from populated areas, and disconnected from exploitable natural resources inland. Between 2014 and 2016 some Greenlandic politicians suggested that Denmark might hand over the facility to Greenland as a sign of goodwill. Denmark had the legal right to decide what to do with the land. However, now that it admitted that the base was no longer necessary for national defense, it no longer had a good justification for holding onto it.

It was not clear why Denmark thought private buyers would be interested in Grønnedal. Commodity prices had been falling precipitously for over a year, forcing most private mining companies in Greenland to freeze ongoing capital projects or even suspend operations at existing mines. Since Greenland was a frontier producer with high marginal costs, it was no longer a desirable destination for cash-strapped private miners to consider big speculative investments. In short, Denmark must have been willing to consider offers to buy the base from other states or state-linked companies. If not, it had not thought through its plan to sell the facility.

The most obvious potential buyers were all Chinese. While private investor interest in Greenland was declining, Chinese firms were showing more interest than ever. The Chinese mining firm General Nice acquired the Isua iron mine in January 2015, when iron prices were in free-fall. State news outlet *China Daily* predicted that Isua would surely lose money, citing various statistics as evidence (Du 2015). Precisely for that reason, the author of the editorial argued that Isua would be a good way to “test Chinese companies’ mining ability in the Arctic region.” Because the mine was near-certain to be unprofitable, the author argued, the deal “will showcase the strengths of Chinese private companies and their ability to take big risks.” General Nice even told the Greenlandic government that it had no intention of developing Isua if global iron prices stayed at current levels (Fouche 2016).

In other words, China was not hiding the fact that it wanted to make strategic investments in Greenland—even if that meant losing money in the short term. This logic matched the rudimentary playbook that Chinese analysts had developed by 2016 for establishing a geopolitical foothold in Greenland, discussed above in Chapter 4.

General Nice’s bid for Grønnedal perfectly matched the approach that Chinese analysts had set out for establishing an Arctic facility. Chinese analyst Kang Wenzhong had argued in 2012 that China needed a “strategic fulcrum” or “strong point” [战略支点] to access the Arctic and compete effectively with the United States. His recommended method was to “intervene through enterprises” rather than direct political contacts (Kang 2012). Grønnedal met these criteria. It was separated from Isua by mountainous terrain that would be prohibitively expensive to connect by road, so it was unclear what General Nice planned to do with the site other than servicing vessels visiting Greenland for unrelated purposes. There was some speculation that the facility could be used for fishing, or as a rest point for

cruise ships, but General Nice had not shown any intention to branch out into those business functions (interview with Marc Lanteigne 2020).

The fact that Greenland wanted Denmark to hand over Grønndal met yet another of Kang's criteria: that China should "use the contradictions between Arctic countries to pursue China's geostrategic interests" (Kang 2012). Grønndal also met Lu et al.'s criteria for a desirable Arctic facility: it had no permanent local population, so General Nice would not have to spend resources and attention on "indigenous coordination costs," endearing itself to the community (Lu et al. 2013). Altogether, this suggested that General Nice was probably acting on behalf of the Chinese state, which was interested in Grønndal for geopolitical reasons.

Grønndal also fitted neatly into China's emerging *climate* geopolitics strategy. Guo and Dong had noted that the Arctic's "special geographic location and strategic value" [特殊地理位置及战略价值] was due to climate change and melting sea ice (Guo and Dong 2015). Song Guoming of China's Ministry of Land and Resources had argued that Greenland "is the front line of global warming" [地球变暖的前线] and that as global warming begins to melt the huge ice sheet, "it will become easier to open up Greenland's natural resources" (Song 2012). Song had also assessed that Greenland was determined to "shake off [摆脱] its dependence on outsiders." According to this logic, Greenland was a natural partner for China under climate geopolitics since it wanted a non-Danish partner to help develop its ports and mines. Just as China saw Greenland as strategically valuable largely because of the expectation of future climate change, Greenland might have sought to encourage China's interest in climate geopolitics by backing General Nice's bid. By allowing General Nice to

make its offer, the Chinese government was indicating that it thought Denmark was sufficiently unconcerned about climate geopolitics that it might approve the sale.³⁹

Chinese observers were surprised and disappointed by Denmark's reaction. After the press reported General Nice's offer, Denmark hurriedly invoked its authority over security policy in Greenland to reject the bid. Denmark had to perform an awkward diplomatic volte-face to do this, since it had only recently made clear that it had no remaining strategic use for the base. Danish Prime Minister Lars Løkke Rasmussen (Venstre) contacted the leaders of five Danish political parties to ask for their support in reopening Grønnedal. Denmark's Foreign Affairs Spokesman, Nikolaj Villumsen, called China "aggressive" and said that "it is a dangerous security policy path to take if we suddenly have major Chinese interests in Greenland" (Bülow 2018). By December 2016 the Danish government had publicly reversed its position and announced that it would cancel the bidding and re-open the Grønnedal facility.

Danish officials argued that selling Grønnedal would intensify U.S.-China competition and hinted that the United States wanted them to block China's bid. "It should be obvious to everyone that Denmark cannot have two superpowers playing hide-and-seek in

³⁹ At the time, this might have been a reasonable assumption. According to Vittus Qujaukitsoq, the second most-powerful person in the Greenlandic government at the time, the chief executive of General Nice told him that the company had held three separate conversations with the Danish government about a possible deal to sell Grønnedal. If this is true, then Denmark cannot have rejected General Nice's initial offer out of hand. Qujaukitsoq described the meeting with the General Nice executive in great detail. He claimed that he was shocked to hear that Denmark was considering selling a facility in Greenland to a foreign country without consulting Nuuk, and immediately called Prime Minister Kim Kielsen to inform him. Claus Hjort Frederiksen, Denmark's defense minister at the time, categorically denied Qujaukitsoq's account. Frederiksen insists that if Danish government officials had talked to General Nice about a potential sale, he was never aware of it. When I asked Frederiksen to explain Qujaukitsoq's version of events, he responded that Qujaukitsoq is a Greenlandic nationalist who bears a personal grudge against Denmark (interview with Claus Hjort Frederiksen 2021). The implication was that Qujaukitsoq was either lying or exaggerating. One of the two men's accounts must be false. I find Qujaukitsoq's version of events to be more credible because it is more detailed and better fits the broader fact-pattern. But, either way, China was clearly right to think it had some chance of getting the purchase approved.

Greenland,” an anonymous Danish military official later told Reuters. “I don’t think the U.S. would find such a situation amusing” (Matzen 2017). The United States government did not comment on the matter. There is no evidence that Washington or Copenhagen believed that Grønnedal was connected specifically to *climate* geopolitics, nor that Washington intervened directly to make Denmark reverse its plans for Grønnedal. Even if Denmark acted alone and did not appreciate the Chinese and Greenlandic perspectives on the climate dimension, the Grønnedal case put the United States on notice about China’s intentions.

Greenlandic politicians were angry—not at China for making the offer, but at Denmark for unilaterally rejecting it. All major Greenlandic political parties argued that the question of what constituted security and defense should be Greenland’s to decide, so Greenland should control the facility and reserve the right to sell it to whomever it liked (interview with Walter Turnowsky 2021). When the story broke in the press, Prime Minister Kim Kielsen accused Denmark of not consulting him. Greenlandic Independence Minister Suka K. Frederiksen (Siumut) accused Denmark of using Greenland’s security as a pretext for its anti-China agenda. Former Prime Minister Aleqa Hammond commented to reporters that: “My view of the Chinese is probably not the same as Denmark’s...Greenland wants cooperation with all nations,” hinting that she had no problem with the sale, so long as the price was right. By contrast, Greenlandic politicians expressed no concern about the possibility that climate geopolitics might pose a security risk.

The main legacy of the Grønnedal case was that it alerted the Americans to China’s interest in Greenland. The fact that a supposedly private Chinese firm was quietly seeking approval to buy a naval facility, without any compelling financial justification, meant that Beijing must see long-term strategic benefits from establishing a foothold. It also meant that

General Nice must have been acting at the behest of the Chinese government, so other private Chinese firms operating in Greenland were now suspect. As the next case study will demonstrate, the U.S. government considered these facts as it assessed China's climate geopolitics strategy in the following years.

The Grønnedal case also showed how climate geopolitics can interact recursively with domestic politics in small states. First and most obviously, General Nice's offer to buy Grønnedal failed because the company misunderstood the domestic politics of the Danish Realm. Even though, in theory, Denmark might have handed the facility back to Greenland, to dispose of as it wished, this was still a military base, and Copenhagen reserved the right to reverse its position at any time. Some elements of the Danish state may have been receptive to General Nice's offer, but Denmark ultimately concluded that accepting the deal would make Greenland a site of superpower geopolitical competition. The geopolitical risks of letting China in and angering the Americans outweighed the potential benefits of a cash payment.

Grønnedal also led Denmark to rethink Greenland's place in the Danish Realm in light of China's growing interest. According to Walter Turnowsky, the journalist who broke most of the stories and interviewed all the key Danish and Greenlandic politicians involved at the time, Grønnedal marked "the point where Denmark realized that they had to do something" to give Greenland more stature within the Realm, or "China would keep trying to get its foot in the door" and might eventually pry the Realm apart (interview with Walter Turnowsky 2021).

The Danish government responded by "engaging in much more of a dialogue" and "building communication channels with Greenlandic politicians." In 2018 Denmark

successfully drew on these communication channels when it persuaded Greenland not to accept a Chinese tender to rebuild its airport network. The Grønnedal case therefore showed how climate geopolitics is a dynamic phenomenon, not a static one. When climate geopolitics begins to affect a country or region, it can have direct and indirect consequences for domestic politics of small states in that region, which can, in turn, determine the outcome of future deals and partnerships related to climate geopolitics.



Figure 7.1 - A Danish MHV800-class patrol boat docks at Grønnedal, undated, before 2016 (Søfart, Forsvarets Bibliotek)

7.4 Summary of the Kalaallit Airports case

China made its next big push to invest in Greenland in 2018. Greenland's underdeveloped aviation infrastructure is a structural bottleneck that depresses tourism and severely impairs economic development. Danish media reported as early as 2012 that China was planning to offer investment in Greenland's airports. In 2017 Greenlandic Prime Minister Kim Kielsen visited China in the hopes of securing financing. In May 2018 the Greenlandic government announced that China Communications Construction Company (CCCC) had submitted a bid to renovate and expand the national airport system and was among the three finalists to win the tender. The circumstantial evidence strongly suggests that Greenland intended to give the contract to China.

By 2018 all four sides were aware that the United States and China were playing a climate geopolitics game for access and influence in Greenland. Successive Greenlandic prime ministers used a climate geopolitics strategy to bring China to the table and provoke anxiety in Washington and Copenhagen. Just as Greenland had anticipated, the United States and Denmark concluded that China's involvement in the deal posed a security risk. After a rushed and semi-public debate, the United States and Denmark made an attractive counteroffer and Kielsen agreed to give the contract to a Danish consortium instead. Once again, Greenland did not act as Chinese analysts had predicted. This was because China once again misunderstood the internal dynamics in Greenlandic and Danish domestic politics — and how the United States would act on the lessons it had learned in the Grønnedal case.

7.5 Discussion of the Kalaallit Airports case

Greenland's remote and far-flung geography makes it extremely dependent on aviation for transportation and logistics.⁴⁰ However, the national airport network is underdeveloped and inefficiently designed to the needs of Greenland's population and economy.⁴¹ In Nuuk, the capital, the short runways cannot accommodate planes with a capacity of over thirty seats (Kalaallit Airports Holding 2018). Air Greenland, the national airline, uses revenue from its profitable international routes to subsidize unprofitable domestic routes (Bemærkninger 2018). These factors make the cost of air travel exorbitant, which depresses tourism and keeps consumer prices extremely high. One study found that building two new international airports would save the average passenger DKK 1,000 (\$150) per trip (Inatsisartut 2018). Increasing capacity and lowering the cost of air travel would also improve Greenlanders' quality of life—for example by expanding their access to emergency medical care. It would create jobs in the tourism, hotel, restaurant, entertainment, and construction sectors, enabling Greenland to diversify its economy away from fisheries with an eye toward eventual independence.

Greenland began planning to modernize the airports almost immediately after the Self-Government Act was ratified in 2009. For Greenland's economy and society, the design and financing details of the project were enormously significant. Revamping the airport system involved deciding which regions and settlements would reap the benefits of future tourism and economic growth, and which might need to downsize or even eventually be abandoned. Greenland's political and business elites mostly favored reforms to rationalize

⁴⁰ There are no roads connecting cities and settlements within Greenland. There is a ferry that operates regular service from north to south Greenland, but the journey is expensive, takes over a week, and does not operate regularly in winter. Many settlements rely on aviation for resupply and personal transport.

⁴¹ There are thirteen airports and numerous heliports across the country, most built by the United States military during World War II. The largest airports in the country, Kangerlussuaq and Narsarsuaq, are located in settlements with populations of 538 and 124, respectively.

the system and cut costs wherever possible. But, because the decision of where to focus the investments had existential implications for many communities, the issue was intrinsically tied up with domestic politics.

One of the Greenlandic government's first acts after the Self-Government Act took effect was to form an independent commission to study the airports issue (Bemærkninger 2009). When the commission recommended shutting down the airports at Kangerlussuaq and Narsarsuaq, a large percentage of the population of South Greenland took to the streets to protest (PO 2010; PO 2013; Inatsisartut 2018). The lesson was that the more outside funding Greenland could secure, the easier it would be to win public approval—but the less likely it would be that the project would be financially sound. This created the incentive to aim big—but also meant designing the project in a way that would deter private foreign investors.

China was the only foreign partner that supported Greenland's goals in the airport project. In November 2011 Greenlandic Minister for Business and Raw Materials Ove Karl Berthelsen traveled to Beijing to be received by Vice-Premier Li Keqiang (Wildau 2011). Berthelsen and the Minister of Land and Resources, Xu Shaoshi, discussed the need to expand the airports. In April 2012 Xu visited Nuuk and met senior Greenlandic officials. The Chinese sources discussed in Chapter 4 confirm that Xu's primary interest was in Greenland's rare earths minerals. But he also made clear that China might be willing to make a large speculative investment in Greenlandic transport infrastructure to secure the long-term access it wanted. In June 2012 the Danish newspaper Berlingske reported that China had offered to invest DKK 1.3 billion in three Greenlandic airports, and the port of Nuuk (Koudal 2012; Jichanglulu 2015). This would have financed all the new infrastructure that the commission had proposed the previous year. Citing anonymous sources, Berlingske reported

that a deal with China would be announced “soon” (Koudal 2012). In December 2012 the Greenlandic government introduced a new law to ease visa restrictions on foreign workers—presumably Chinese ones.

After this story broke, Rear Admiral Nils Wang, the head of Denmark’s Defense Academy expressed concern that geopolitical considerations were pushing Greenland closer to China (Wang 2012). Denmark was the only Arctic state that still entertained the “romantic illusion that the Arctic can be a major untouched national park for all of humanity,” Wang argued. “The pressure on the world’s raw materials is simply too great for anyone to afford to let them down.” Denmark should not be surprised that Greenland’s “dance card is quickly filling up with wealthy international partners.” Given Greenland’s tiny population, Wang contended that was “hardly realistic” that a future Greenlandic microstate could ever be “independent in the true sense of the word” (Wang 2012). But if Greenland followed through on this partnership with China, it would soon no longer need direct financial support from Denmark.

Many Greenlandic elites believed that Denmark did not want the airports to be modernized. Prime Minister Kuupik Kleist complained that Denmark had “directly encouraged” him “to refrain from trading with certain countries” (Ritzau 2013). Greenland should be free to welcome foreign investments from anywhere, he retorted, referring to China. Kleist’s successor Aleqa Hammond claimed that she asked Danish Prime Ministers Helle Thorning-Schmidt and Lars Løkke Rasmussen for financing help on the airports. Both, so she claims, refused her (interview with Aleqa Hammond 2021).

Svend Hardenberg, who served as Permanent Secretary to the Greenlandic government from 2013 to 2015, told me that this exposed the conflict of interest between

Greenland and Denmark. The Danes “don’t have an interest of Greenland developing,” Hardenberg told me. When Greenland sought funding for the airports from the European Union, “nothing came of it because Denmark is part of the EU and we are not.” Greenland also asked the United States to co-finance the airports. “They were not interested” either, Hardenberg explained because “they didn’t want to piss off the Danes. Denmark and the United States have an understanding about U.S. interests in Greenland.”

Hammond decided to use a climate geopolitics strategy to solicit financing for the airports. “Several of us—not an established group or anything, just some officials and interested Greenlanders with common interests—knew that you could motivate the U.S. by contacting China,” Hardenberg recalled. After their outreach to Denmark and the United States failed, Hammond’s team contacted China. “China was genuinely *very* interested,” Hardenberg told me. Hammond, who argued in Chapter 6 that climate change is the reason China sees Greenland as geopolitically important, offered an identical account of events. “When I contacted [China], the tone from Copenhagen changed very fast,” she recalled to me. “Now, they wanted to hear about our plans, how much money we are talking about, and so on. And they thought the airports were a very good plan indeed.” She also confirmed that “the Chinese authorities made a major proposal...to *co-finance*” the project. Chinese government officials “presented to me personally,” she attested. No formal Chinese financing offer was ever confirmed in the press. But Hammond came away confident that China had given her a standing offer of financing, which gave her cover to bargain aggressively with Denmark and the United States.

All sides understood that, given the massive size of the project relative to GDP, Greenland would need a foreign partner to put up the financing. Yet Hammond’s government

claimed that the Greenlandic state “should not assume any real risk in connection with the [airport] project’s possible implementation” (PO 2014). Instead, the Greenlandic government’s annual political economy report predicted that “private investors” would provide all the financing and bear all the risk. As with Grønnedal, this claim made sense only if the “private investor” was a euphemism for a Chinese state-owned enterprise willing to lose money on the project. It also implied that the foreign partner would have to take an equity stake in the project, not just offer a loan. By 2015 three of Greenland’s largest parties essentially admitted this, agreeing to explore “possible co-ownership from the outside” (PO 2015; Naalakkersuisuit 2015; Jichanglulu 2015).

The details of the project were still hazy. Greenland’s largest parties agreed, in theory, on the need to keep costs down and preserve competition, even if this meant “downgrading” less profitable facilities (Inatsisartut 2018). But the existential importance of air connections for many settlements meant that profit considerations had to be balanced with political ones. As Greenland’s 2016 PO admitted, “it is important to remember that the goal is not just a series of individual infrastructure projects, but to create a coherent infrastructure that binds the whole country together. This means that a single negative business case can be well offset by focusing on the unity and cohesion as well as any other derived positive effects, such as the displacement of subsidies for public service contracts” (PO 2016). In other words, the airport expansion plan would be politically feasible only if it included enough cross-subsidies to satisfy a critical mass of constituencies. Someone—either the Greenlandic government or its foreign co-investor—would be left responsible for the resulting losses.

When the Greenlandic government submitted its proposal to parliament, the price tag was massive. Planned construction was estimated to cost DKK 3.6 billion, equivalent to 20% of GDP, and there was an additional risk that the budget would overrun, which it eventually did. The proposal recommended against building airports in smaller settlements (Bemærkninger 2018). Instead, it called for expanding the Nuuk and Ilulissat airfields into proper international airports with 2,200-meter runways, capable of handling Boeing 737s and Airbus 320s. It also called for turning Qaqortoq, Greenland's fourth-largest settlement, into a regional aviation hub with a 1,500-meter runway. This was no small expense for a country of only 56,000 people, where labor, fuel, and construction equipment and materials would all have to be imported.

The Greenlandic government did not explicitly invoke climate geopolitics in its planning process, but it clearly had expectations of future climate change in mind. An investment of this scale was extremely risky for Greenland's public finances and made sense only if Greenland's population and economy were poised for long-term growth. This in turn implied that Greenland had a plan to diversify its economy from near-total dependence on fisheries to include tourism and mining. These assumptions would have been implausible without the expectation that the climate was rapidly warming, making Greenland a more desirable destination for foreign visitors and investors making Greenland's mineral resources economically viable to extract.

In late October 2017, Prime Minister Kim Kielsen and a large Greenlandic delegation went to China to seal the deal. Twenty-five ministers, bureaucrats, and business representatives attended, including executives from Kalaallit Airports, the state-owned holding company. It was the largest-ever Greenlandic political delegation to another country.

Before Kielsen departed, KNR, Greenland's national radio station, reported that the trip was a "charm offensive" with the goal of "making contacts and agreements to bring home to Greenland" (Elkjær 2017). Kielsen confirmed this to the press. "Our visit to China should be viewed in the context of seeking funding to these future investments," he said, after meeting with the Export-Import Bank of China in Beijing (Matzen and Daly 2017). While in China, Kielsen's team also met representatives from CCCC and Beijing Construction Engineering Group (BCEG), another state-owned enterprise. As we saw in Chapter 4, Chinese commentators interpreted Kielsen's trip as a "personal visit to solicit the 'bankroller'" [亲自来到中国招徕"金主"] (Lu 2018). If "Greenland wants independence but is too poor?" Lu noted, it should "let China invest." It seemed that both Greenland and China were playing a climate geopolitics game. As Xiao Yang wrote later that year, China could help Greenland become "the first sovereign state created by climate change" (Xiao 2018).

Mindful that Greenland's relationship to Denmark was sensitive, China handled Kielsen cautiously. Kielsen called the trip an "official visit," but he was actually visiting on the invitation of a party-linked think tank, the China People's Institute of Foreign Affairs [中国人民外交学会], not the Chinese government (Embassy of the PRC in Denmark 2017; Jichanglulu 2018). The highest-ranking Chinese official Kielsen met with was Vice Foreign Minister Wang Chao, who typically met parliamentary-level delegations from Denmark, not heads of state. The Chinese readout released afterwards clarified that the meeting had taken place "at [Kielsen's] request," called him the "Prime Minister of the Greenland Autonomous Government of Denmark," and noted that the Chinese ambassador to Denmark was present (Ministry of Foreign Affairs 2017). These statements signaled to Denmark that China still respected the fig leaf of "non-interference" in the internal politics of the Danish Realm. But

in the private meetings, despite the cautious diplomatic protocol, there is no evidence that Kielsen's Chinese interlocutors walked back the promises they had made to Hammond to support the airports project. Kielsen returned to Nuuk apparently satisfied.⁴²



Figure 7.2 – Kielsen and Chinese Vice Foreign Minister Wang Chao in Beijing, October 30, 2017 (China Ministry of Foreign Affairs)

⁴² To China's surprise, Denmark's relatively pro-Beijing foreign ministry supported Kielsen's efforts on this trip. Kielsen acknowledged this before departing for Beijing, noting that he had been "personally invited by the Chinese government via the Chinese embassy in Copenhagen." The Danish government was "very much aware of Greenland's approaches to China, and supported them very strongly: facilitating meetings, setting up travel arrangements, you name it," Danish journalist Martin Breum told me, based on his own elite interviews. "At that time, the Danish foreign ministry's thinking about possible Chinese involvement in the airports project was: if the Greenlanders can get investments from elsewhere, good for them." The Danish defense establishment was warier. A year later, when the United States came out against the project because of its relationship to climate geopolitics, the Danish government would come out against Chinese involvement in the project.



*Figure 7.3 - Greenlandic delegation and Wu Hailong, President of the Chinese People's
Institute of Foreign Affairs (Chinese People's Foreign Policy Institute)*



Figure 7.4 - Kim Kielsen and three ministers, including future Prime Minister Múte Egede (right), presenting at the “Greenland Day” session held at the Danish Embassy in Beijing, October 31, 2017. [Zhang Liying/China.org.cn]



Figure 7.5 - Chinese models pose wearing seal skin clothes at the “Greenland Day” session [Zhang Liying/China.org.cn]

After returning from China, Kielsen sped up the airports project with the goal of breaking ground as soon as possible. Kalaallit Airports formally applied for construction permits in 2017. The government immediately granted it a special waiver from socioeconomic and environmental impact assessments. In September 2017 former Greenlandic Prime Minister Hans Enoksen of the strongly pro-independence Naleraq party, one of Kielsen's coalition partners, visited Beijing again with representatives from Kalaallit Airports to meet with CCCC, BCEG, and multiple Chinese banks (Naalakersuisut 2017). Shortly thereafter, the Greenlandic government approved the construction permits. When Kalaallit Airports announced its intention to float a tender, it released a promotional video about the project in Chinese (Jichanglulu 2017). In February 2018 the company published the impact assessments. In March it held public hearings and announced plans to begin construction by summer (Construction Index 2018). For a large infrastructure project in a Nordic country, this was an extremely fast approval process. There was still no top-line number for the cost of the project and no other foreign funder had expressed interest. Greenland's haste would have made little sense if China had *not* given Kielsen an open-ended offer to supply the funding he had come to ask for.



Figure 7.6 - Greenlandic Prime Minister Kim Kielsen (center-left) meets with Chinese Ambassador to Denmark Yong Deng (center-right) at the Chinese Embassy in Copenhagen before his trip to Beijing, October 28, 2017



Figure 7.7 – Greenlandic Minister of Commerce Hans Enoksen (left) and Beijing Construction Engineering Group (北京建工集团) General Manager Wu Junxi at the latter's office in Beijing, November 2, 2017 (Naalakkersuisut)

Formally, Greenland was running a competitive tender process; informally, it was obvious that China was heavily favored. The details of the tender were released in December 2017 (Tenders Electronic Daily 2017). Greenland planned to inject DKK 2.1 billion of equity capital into Kalaallit Airports A/S, which meant the company needed up to DKK 1.5 billion in debt financing—8% of gross domestic product—to meet the contract costs. The company would use the Greenlandic government's stake as collateral. The tender itself was only for construction. Kalaallit Airports would operations the new airports once completed. But since the Greenlandic government was deliberately withholding the company's medium-and long-term financial projections, it was unclear why any private financial institution would offer

financing on acceptable terms.⁴³ In March, Kalaallit Airports released its short list of six finalists for the construction tender: two Danish, one Canadian, one Dutch, one Icelandic, and one Chinese (CCCC). If China had indeed committed to financing the project before the details of the tender were published, its reasons for investing must have been strategic, not commercial.

The Greenlandic government knew that the project was financially riskier than it was letting on. The month before it opened the invitation to tender, Greenland's Finance Ministry released a report admitting that "in the opinion of the ministry, it is of considerable economic importance to the company that [its internal analysis of Kalaallit Airports' likely profitability] is not made public...The public's knowledge of the expected profits in Kalaallit Airports...may result in a worse negotiating position" (Naalakkersuisut 2018). This shocking statement all but admitted that the Greenlandic government knew the airport modernization plan would probably be an unprofitable investment. Despite Hammond's promise that the Greenlandic government would take no risk in the project, it was increasingly clear that Kalaallit Airports might require ongoing bailouts. Who, then, was the project's ultimate financial guarantor?

The United States and Denmark saw that the deal risked putting Greenland deep into debt to China. But, since Greenland had an election approaching, they held back from outright criticism. At first, Danish Foreign Minister Anders Samuelsen flatly denied that Denmark opposed China's participation in the project. Anonymous Danish sources told a different story. "China has no business in Greenland," one Danish official told Reuters

⁴³ To compensate for this risk, the Greenlandic parliament had passed Inatsisart Law No. 4 in 2017, which authorized the Greenlandic government to back Kalaallit Airports with credit lines and sovereign guarantees (Inatsisart 2017).

(Rizhau 2018). As soon as the election results were in—Kielsen was re-elected and formed a new, strongly pro-independence coalition with Naleraq and Vittus Qujaukitsoq's Nunatta Qitornai—the United States and Denmark almost immediately came out against Chinese involvement. Aleqa Hammond, now serving as Greenland's representative in the Folketing, insisted that Denmark had no right to intervene, and that Greenland would not change its plans under Danish pressure. "Greenland welcomes interest from China," she said. It was "unacceptable" that Denmark was asserting a colonial prerogative [overherredømme] to veto Greenlanders' choices about their own future (Klarskov 2018).

The United States then put its foot down even harder than before. On May 25, 2018, U.S. Secretary of Defense James Mattis met his Danish counterpart, Claus Hjort Frederiksen, at the Pentagon. The U.S. government's read-out of the conversation contained no mention of Greenland (U.S. Department of Defense 2018). But when Frederiksen returned to Copenhagen, he told reporters in some detail about what Mattis had said to him. Greenland seemed to top the list. "Mattis mentioned that the Chinese are very active in the South China Sea," Frederiksen said (Ritzau 2018a). "They had promised that what they built on these artificial islands had nothing to do with defense. But three weeks ago, the Chinese sent long-range strategic bombers to the islands and violated what they had promised. Of course, the parallel was that you could expect it elsewhere—in Greenland, for example." Frederiksen elaborated on his position in a subsequent interview, this time claiming to agree with Mattis. If Chinese investments have a purely "commercial purpose, we are not opposed," Frederiksen said, "[b]ut...these [airport] installations may have other purposes, and that is what is causing trouble." In other words, Washington thought that if Greenland picked China to finance or build the airports, it would become vulnerable to economic coercion. If

Frederiksen was paraphrasing Mattis accurately, then the United States was now explicitly arguing that China wanted to turn Greenland into a dual-use strategic strong point. If the South China Sea was an apt analogy, then China might even militarize its facilities in Greenland over the objections of the Greenlandic government.

The Danish government immediately accepted the U.S. narrative and pledged to keep China out of the project. On May 25, 2018, Danish Prime Minister Lars Løkke Rasmussen argued that Greenland was being “naïve” by assuming that Chinese investment was benign. “One can go to the Maldives and go to different places to see what the risk may be of building an addiction [on Chinese debt] that is not necessarily healthy,” Rasmussen said, “I want that to be a debate with Greenland.” Quoted in *Sermitsiaq*, Jørgen Delman, a Danish expert on China, agreed that China’s bid “is not just a contracting task...It is directly linked to Chinese leader Xi Jinping’s Belt and Road Initiative and China’s substantial interests in the Arctic region. Greenland airports are an important bridgehead” [vigtigt brohoved] (Sermitsiaq 2018).

These arguments echoed the Trump administration’s claims that China used foreign lending to create “debt traps” for small countries. They also claimed China’s interest in Greenland was mainly geopolitical rather than commercial in nature, though Rasmussen did not link China’s objectives to climate change. After debate in the Folketing, Denmark agreed to offer Greenland financing for the airports at an ultra-low concessional interest rate.

After the United States and Denmark decided to intervene, China’s hopes of winning the bid evaporated. China sent its ambassador to meet Kielsen, but whatever she offered did not change his mind. In September, Kielsen announced that he would accept Denmark’s offer, effectively blocking China from the project (Naalakkersuisut 2018; Kalaallit Airports

Holding A/S 2020).⁴⁴ Many Greenlanders were angry that Kielsen had yielded to pressure.

When Rasmussen visited Nuuk to announce the funding deal, over seventy protesters confronted him, waving signs with slogans like “#ColonialRule” and “#GoHome” [#Kolonistyre #RejsHejm] (Andersen 2018).

Naaleraq promptly left the governing coalition, stripping Kielsen of his majority. “The [Danish] state is directly interfering in our politics,” said Enoksen, Naaleraq’s chairman (Ritzau 2018b). True Greenlandic independence, he believed, would not be possible if Denmark controlled the country’s most critical infrastructure. This indicated that Enoksen and his party would support the project only if it were completed with Chinese financing, and that they cared enough about the issue to risk toppling the government.



⁴⁴ Under the deal, the Danish state injected DKK 700 million in equity capital, a 33.3% stake, and arranged for the necessary debt financing. Half of this—DKK 450 million—took the form of a direct sovereign loan with a 30-year duration and a 0.73% interest rate, locked in using an interest rate swap. Another DKK 450 million came from the Nordic Investment Bank, a multilateral lender in which Denmark plays a leading role. This second loan had a 20-year duration and a 0.506% fixed interest rate.

Figure 7.8 - Protesters opposed to the Danish financing deal confront Kielsen and Rasmussen on the streets of Nuuk, September 10, 2018 (Josefsen 2018)

Kielsen spun the deal with Denmark as a win, hinting that he had been bluffing all along by courting the Chinese. “The original financing model meant a very substantial risk exposure for the government,” a Greenlandic government report admitted soon after the Danish financing was secured. “This will be a very large project...relative to the size of the economy. The project has a long timeframe and is irreversible. Once the airports are built...any negative fluctuation in construction or running costs...would directly affect the economy of the government” (Aningaasaqarnermut Siunnersuisoqatigiit 2018, 24). These arguments were persuasive—but they directly contradicted successive Greenlandic prime ministers who had promised that the project carried no risk at all, since China would take responsibility for it.

The case vindicated Aleqa Hammond’s analysis that Greenland was becoming geopolitically valuable in the superpower competition in the Arctic. It showed that the outreach to China that she had initiated had been an effective strategy in provoking the Americans and Danes into making a counteroffer. Hammond, who was present at Frederiksen’s press conference, paraphrased his comments as: “his American counterpart does not like that the Chinese are flirting so much with Greenlanders, and the United States has asked us to put a stop to it” (interview with Aleqa Hammond 2021). When Lars Løkke Rasmussen, the Danish Prime Minister, later offered Danish financing for the airports, this was not “because he thinks we are cute,” Hammond told me. “He did it because he had been asked by the American authorities to keep the Chinese out.” The fact pattern also corroborated Hammond’s assessment that the United States was behind Denmark’s attempts

to keep China out of Greenland. The case also reaffirmed Hammond's analysis of climate geopolitics in the region. "I played my hand well," she told me, by "talking to the Chinese but not necessarily having to make a deal with them." If Greenland could leverage its strategic value to get financing for its airports project, it could get other things too. "We are the new world," she told me, alluding to the Arctic as a new frontier opening up under climate change. "We are the new card, and these are the new rules of the game. Greenlandic politicians will have to learn them—if we are to play and win."

While the United States and Denmark had succeeded in blocking China this time, both recognized they had to do more to prevent climate geopolitics from structurally bringing China and Greenland together. On September 16, 2018, the U.S. Department of Defense published an open letter tacitly acknowledging the situation (Department of Defense 2018). "In light of world events," it noted, in a vague and euphemistic reference to climate geopolitics and China's growing interest in the region, "the United States acknowledges the increasing importance of the Arctic region to the global economy and to regional security." The letter promised that the United States would study possible infrastructure investments to benefit the Greenlandic people.

The United States government never delivered the promised investment, but it did redouble its diplomatic outreach, aid, and public diplomacy toward Greenland. In 2019, Donald Trump offered to buy Greenland. Secretary of State Mike Pompeo gave his blistering speech at the Arctic Council Ministerial Summit, in which he referred obliquely to the "opportunity and abundance" that would emerge as climate change transformed the Arctic, spoke of China's "aggressive" intentions to exploit that new reality, and pledged to start "fortifying America's security and diplomatic presence" in the region to respond to those

facts. As Chapters 5 and 6 discuss, the Trump administration then established a diplomatic representation in Nuuk, headed by Sung Choi, a former China desk officer, and began active outreach to the local population.

Chinese analysts finally admitted that they had been too sanguine about the outlook for Arctic climate geopolitics. The “geopolitical game for Greenland” [格陵兰的地缘政治博弈] was becoming “more complicated” [更加复杂] as the United States became aware of the stakes, Zhu Gangyi argued (Zhu 2019, 14, 17). The island is “the world’s cornucopia of minerals” [世界矿藏的聚宝盆], including some of the most “urgently needed” rare earth resources discussed in the next case study (Zhu 2019, 15). In other words, Greenland was intrinsically geopolitically important to the United States, and it was only a matter of time until the U.S. government recognized that China’s geopolitical interest in Greenland was a potential threat. “Although Trump has always been known for his erratic policies, this [offer to buy Greenland] was really not random,” Li Zhenfu observed. “Greenland is of strategic importance in the Arctic region, and the U.S. will definitely not give up trying to control it. The best approach [for Washington] is to buy it” (Li 2019).

Yet many Chinese analysts still saw the United States as a blundering hegemon. “To maintain its influence on the Nordic countries” [为维持对北欧国家的影响力], the United States has consistently interfered with the cooperation between the Nordic countries and China, Guo and Zou argued. They drew a line between the United States’ “obstruction” tactics [阻挠] in Grønnedal and the “old American tricks” [美国故伎重施] that shut China out of the Kalaallit Airports (Guo and Zou 2019, 34). One scholar cited a “philosophical logic” [哲学逻辑] from classical Chinese thought to give China reason for optimism. “At present, some relevant parties [一些相关方] have adopted unilateral efforts to resist the

presence of China” in Greenland, wrote Zhu Gangyi. “Although in the short term, individual projects invested by China are indeed affected, in the long run, they will have inevitable counter-effects” (Zhu 2019, 21). She cited chapter 40 of the *Daodejing*, the classical Chinese philosophical text [反者道之动], a line variously translated as “the movement of the Tao consists in returning” (Wu 1961) and “the movement of the Tao by contraries proceeds” (Legge 1891). Her point was that China should look past the tactical setback in the airports deal and keep its faith in its long-term structural assessment of climate geopolitics.

Fortune still favored China, Zhu argued, because Greenland had realized that it could obtain bargaining chips [谈判筹码] from the United States and Denmark by engaging with Beijing. The American fear of losing geopolitical control in the region was the reason why Denmark had ultimately given Greenland an “ultra-low interest rate” on the financing. Furthermore, the United States and Denmark, by interfering in Greenland’s internal affairs, had “increased Greenland’s dissatisfaction” [积累了格陵兰...的不]满 with its second-rate status in the Danish Realm and “activated the spirit of independence already awakening in Greenland” [激发格陵兰本身已经在觉醒的独立意识]. Because “overall” cooperation between China and Greenland continued to deepen, Zhu concluded that the outcome of the airports case was an aberration and Greenland would surely play the same card again (Zhu 2019, 21).⁴⁵

Guo Peiqing and Yang Nan invoked the same line from the *Daodejing* but took the logic even further. Washington, they argued, was a fighting in a “vicious circle of movement

⁴⁵ This argument echoed Kang Wenzhong’s 2012 hypothesis that China should pursue its climate geopolitics strategy by exploiting contradictions between Arctic countries. It also illustrated how, despite the Chinese Foreign Ministry’s strict adherence to diplomatic protocol in dealing with Greenland, that Chinese commentators recognized that climate geopolitics was in tension with the doctrine of “non-interference” in other states’ internal affairs.

against the Tao” [“反者道之动”的恶性循环] (Guo and Yang 2019). First, Washington’s investment in the Greenland airport was “contra its self-interest and not worth the price.” This was a revealing admission, since China had for years seemed determine to finance and build that very project. Second, U.S. attempts to securitize the debate over investment in Greenland were steadily antagonizing its Nordic allies. “The harder the United States tries [to shut China out of the region], the more it struggles and confronts, the worse its effect will be,” they concluded.

These observations suggested that China was still the most dynamic actor in Arctic geopolitics, even though it was not yet powerful enough to influence outcomes directly. “Unless the United States dances to China’s rhythm” [跟随中国的节奏起舞] and begins to pursue its own investment projects in Arctic states, it will only lead itself into a “quagmire of isolation and helplessness” [孤立无援的泥潭], Guo and Yang argued. In the meantime, American resistance would continue to “push Greenland even further into China's embrace [更加推向中国的怀抱] because Greenland has already made a judgment [已经做出判断]: it was thanks to the arrival of the Chinese that Greenland, despite being on the far side of the world, had won such great favor” [才获得如此多的垂青] (Guo and Yang 2019).

Still optimistic, the Chinese analysts finally acknowledged that their analysis of climate geopolitics as a fixed phenomenon had failed, and that they needed to reconceptualize it in recursive relation to domestic politics. The Greenland case, Zhu observed, “is both a microcosm [缩影] of the geopolitical changes in the Arctic, and an outward extension of the domestic political game [国内政治博弈的向外延伸的体现] inside the Kingdom of Denmark...The final outcome of the cooperation between China and

Greenland is not only determined by the parties, but also constrained [更受到...的制约] by the United States and Denmark” (Zhu 2019, 21). In other words, the fate of Greenland would be determined by a dynamic interaction between Greenlandic *domestic* stakeholders and regional actors. Based on the experience of Grønnedal and Kalaallit, the Chinese analysts were revising and updating their theory of climate geopolitics more generally.

Other Chinese scholars were less optimistic. The collapse of the Kalaallit Airports deal had proved that the United States was aware of climate geopolitics and would actively resist China’s entry into the region. “The strategic competition between China and the United States has become the new reality of China-U.S. relations, and the original basic framework of bilateral relations is no longer applicable,” argued Shi Zehua and Zhou Jiayuan of Beijing Foreign Studies University (Shi and Zhou 2020, 34). By implication, win-win cooperation with Washington was no longer possible. For the foreseeable future, the United States would be an “inescapable destabilizing factor” in China’s attempts to build the Silk Road on Ice.

In conclusion, China and Greenland likely had an informal agreement between 2012 and 2018 to collaborate on the airport modernization plan. Both sides knew that this would probably result in Greenland becoming indebted to China; both were relying on climate geopolitics to justify the investment. However, by 2018, the United States and Denmark had realized that Greenland was at risk of becoming a Chinese strategic strong point, so they collaborated to scuttle the deal. Once again, China was outmaneuvered because it underestimated the importance of Greenlandic and Danish domestic politics. It had not expected Kielsen to accept the Danish offer. China also failed to recognize that the United States had learned from the Grønnedal case and would intervene more aggressively at the

next opportunity. In the end, all sides needed to revise their theories of climate geopolitics based on what they had learned from the experience.

7.6 Summary of the Kvanefjeld case

The third and final project-level case study considered in this chapter is Kvanefjeld (Kuannersuit), Greenland's largest resource of rare earth elements (REE).⁴⁶ This is the most complex case of the three as the political economy of REE mining is somewhat technical. Yet the argument is straightforward: both the United States and China were extremely interested in Kvanefjeld because of climate geopolitics, but the project was ultimately scuttled for unrelated domestic political reasons. This finding illuminates a general point: that domestic political factors can outweigh considerations of climate geopolitics, even when all sides recognize that a climate geopolitics game is being played. Thus, climate geopolitics is a dynamic process that interacts recursively with domestic politics.

The case began in 2007 when Greenland Minerals, a private Australian mining company with Chinese financial backing, began to develop the Kvanefjeld site. The company had calculated that Kvanefjeld contained the second-largest resource of rare-earth oxides, and the world's sixth-largest resource of uranium. But building a profitable mine on the site would require patience, capital, and luck. The company proposed an ambitious four-part project—a mine, a concentrator facility, and refinery, plus a port expansion—estimated to cost approximately \$500 million. Despite these challenges, from as early as 2012, Chinese analysts at the Ministry of Land and Resources followed the project extremely closely on

⁴⁶ As with Grønnedal, I use the Danish rather than the Greenlandic name, since this is the name that American and Chinese commentators use.

both the geopolitical and technical levels and suggested that Chinese enterprises should get involved (Song 2012, He 2013).

In March 2014, China Nonferrous Metal Mining Group (中国有色矿业集团公司), a state-owned firm, signed a memorandum of understanding with the Greenlandic government to develop Kvanefjeld. China National Nuclear Corporation (中国核工业集团公司) signed a cooperation deal, and the state-affiliated Shenghe Resources (盛和资源) owns a 12.5% stake, with an option to increase to 60%. Because of these relationships, and because of China's control of the global market in rare earths refining and processing, Beijing would have significant influence if Kvanefjeld ever came into operation.

However, the mine was controversial in Greenland for unrelated domestic reasons, particularly the perceived risk that the mine would contaminate South Greenlandic lands and waters with radioactive waste. Despite the best efforts of the Australian company and its Chinese partners, local opinion turned against the mine. In April of 2021, Greenlandic voters elected a new government that promised to ban uranium mining, putting the Kvanefjeld mine in existential limbo. Knowledgeable observers in Greenland and Denmark now believe that the project is effectively dead (interview with Per Kalvig 2021).

The superpowers' interest in Kvanefjeld was intimately connected to climate geopolitics. Even though Kvanefjeld has large resources of rare earths, whether they are commercially practicable to extract them depends on volatile market prices and other technical considerations.⁴⁷ The cost of operations and transportation in Greenland are high, so

⁴⁷ Mining companies “do a lot of marketing about the side of the resource,” Per Kalvig explained to me. “And it’s true—Greenland has the biggest rare earth resource in the world. But that’s not of great interest. If you have enough resource to make the mine economically feasible for 10, 15, or 30 years, that’s more than sufficient. Who cares if you could continue for 200 years?” The most important consideration in considering the financial viability of a mine is the “breakeven” price level for the basket of minerals it contains—the price level below which it is no longer profitable to operate. But other factors matter, too. For example: how much ore can the

private investors would need to expect that rare earths prices would stay high—and the regulatory environment for mining would stay friendly—for many years to come. Indeed, Greenland Minerals struggled to attract private investment. This suggests that, if there were no climate change, Kvanefjeld would not be particularly valuable as a strategic asset.

However, the United States and China both seem to expect that climate change will change the geography of the Arctic maritime domain, reduce the costs of operating in the region, accelerate global economic shifts that increase demand for batteries and other high-tech products that require rare earth inputs, and intensify the U.S.-China rivalry. Both superpowers have indicated numerous times that Greenland's rare earths wealth is a key reason why the country is geopolitically important. Indeed, Donald Trump's offer to buy Greenland in July 2019 came only a few days after Greg Barnes, an Australian executive who owns another rare earths mine just a few miles from Kvanefjeld, visited the White House to give a presentation on Greenland's REE riches (Greber 2021).

For superpowers competing in a zero-sum climate geopolitics game, Kvanefjeld is an appreciating asset. Many Greenlandic politicians, including Aleqa Hammond and Vittus Qujaukitsoq, supported rare earths mining on the grounds that it would strengthen the economy and increase Greenland's geopolitical value as it moves toward independence. In short, climate geopolitics is the fundamental reason that Kvanefjeld is an appreciating strategic asset, just as Kvanefjeld is a key reason that Greenland is an appreciating asset under climate geopolitics.

mine produce, and how quickly? Can the miner find a suitable buyer? To what extent can it develop or refine the product itself? "There is a common misunderstanding about what makes a rare earths mine 'rich,'" Kalvig says. "It's much more complex than for gold or iron or other simple commodities. With the right composition of the individual rare earths, a low-grade rare earths deposit may have a higher value than a 'richer' deposit. You have to factor in the processing costs, which vary widely depending on the composition of the raw product."

The case shows how domestic politics can predominate over climate geopolitics. Hammond's and Qujaukitsoq's domestic opponents won the internal argument. Local communities in South Greenland came to doubt that they would reap suitable economic rewards to compensate them for the environmental risk. Cultural factors played a role, too, as the anti-nuclear Inuit Ataqatigiit party highlighted Greenlanders' "traditional values" of ecological conservation to frame their opposition. In the 2021 Greenlandic election, a decisive majority of Greenlandic voters voted to halt construction on the mine. As a result, the superpowers' maneuvering for access to Greenland's REE resources was in vain.

7.7 The geopolitics of rare earths

China holds a near-monopoly on global production of REE, an essential resource input in a wide range of critical technologies, from wind turbine magnets to batteries (Kalantzakos 2017). In the 1990s, China actively developed its domestic REE reserves. By 2010, it controlled between 93% and 97% of the world's production and held by far the largest stockpiles. This gave it extraordinary power over global prices. Kalantzakos calls China an "OPEC of one" for REE (Kalantzakos 2017). Never in history has a single state monopolized the global supply of such a critical mineral to such an extent. China also dominates the refining and processing stage of the REE supply chain, where it enjoys a technological lead (interview with Chris Stavrianou 2021, National Intelligence Council 2021).

For multiple technical and operational reasons, Greenland Minerals therefore needed Chinese partnership. It needed patient and risk-tolerant investment to develop a resource in a remote location that would likely be unprofitable in the short-term. And it needed a Chinese

partner to process of ore. This made the company more dependent on Chinese support than Shenghe's 12.5% minority equity stake might have suggested.

China knew that its REE monopoly was geopolitically valuable. In September 2010, after a maritime dispute with Japan, Beijing imposed an unofficial embargo. The story was on the front page of the *New York Times* for nearly a week. The World Trade Organization later found in Japan's favor, and bilateral trade resumed. But the episode illustrated that China retained the option of using REE embargos as a coercive tool. After the embargo, the United States, Europe, and Japan all sought to diversify their supplies. Beijing's actions were "a wake-up call," said U.S. Secretary of State Hillary Clinton. To rely on a single country for such a "critical" resource was not "in our interests commercially and strategically" (U.S. Department of State 2010). In 2019 China threatened to restrict exports of REE to deter the United States from raising tariffs. As the nationalist tabloid *Global Times* put it: China should "give full play to the unique value of rare earths...Beijing doesn't want a rare-earth war with the U.S., but the idea of weaponizing this group of minerals in a trade war is not just empty talk" (Hu 2019).

The United States and its allies tried and failed to break China's monopoly. After the embargo, the U.S. federal government pushed to reopen the Mountain Pass mine in California and encouraged Canberra to support the Mount Weld mine in Australia. However, over the next five years, REE prices plummeted, and these projects failed to take off commercially. Some industry experts concluded that China was manipulating prices to deter private investors from developing new rare earths mines that it does not control (interview with Chris Stavrianou 2021).⁴⁸ Others suspected that China may take stakes in overseas REE

⁴⁸ Unlike many other industrial metals, REE do not trade in deep, public commodities markets. Price movements are highly volatile, so the decision to pour capital expenditure into exploring and developing a new

projects, even if it does not plan to develop them, simply to keep the United States from using them (interview with anonymous industry expert 2021). Thus, whether or not it was strictly true, both superpowers seemed to believe for most of this period that China *could* use rare earths as a geopolitical weapon, if it wished to do so.

REE are particularly important to the production of renewable energy—and are therefore related to climate geopolitics in multiple ways (Overland 2018). They are essential for the manufacture of permanent magnets for wind turbines and batteries for electric vehicles. Depending on adoption rates, global REE consumption could increase by four to seven times between 2020 and 2040 (International Energy Agency 2021). If these demand projections are accurate, then prices are likely to trend upwards, potentially making Greenland’s resources commercially viable to extract. Thus, the expectation of future climate change—and of states’ and societies’ responses to the expectation of future climate change—are fundamental to the discourse regarding the geopolitics of REE. Expectations of future climate change, and global adaptation to climate change, are also important inputs in REE *prices*, which determine the fates of individual mines.

As previous chapters have shown, China, the United States, and Greenland all believed that Greenlandic REE could potentially break China’s monopoly (interview with Aleqa Hammond 2021, Greber 2021). Kvanefjeld mountain and its two adjacent deposits, Sørensen and Zone 3, contain the largest accessible resource of rare earths in North America

mine site is extremely risky for a private firm. This frequently requires government collaboration—one reason why China successfully developed its rare earth monopoly in the 1990s and 2000s, even though it was far from the only country with large REE reserves. China’s largest producer is Baotou Steel (包头钢铁集团), a state-owned enterprise operating largely in Inner Mongolia. After the 2009–2010 embargo, prices of some REEs rose by over 300%. Under pressure from the U.S. government, Molycorp resumed production at its Mountain Pass mine in California. But within three years, Baotou’s production rose again, glutting the global market. REE prices fell 90%, and Molycorp filed for bankruptcy.

or Europe (Greenland Minerals, undated). About 80% of the mine's potential revenue comes from REE.⁴⁹ Greenland Minerals claimed that Kvanefjeld, once fully developed, could potentially meet 20% of global demand for four key rare earth minerals and provide \$200 million, or 7% of Greenlandic GDP, annually in taxes and indirect revenue to the Greenlandic treasury (Breum 2021).⁵⁰ In short, Kvanefjeld is an expensive, time-consuming, and high-risk/high-reward business venture. If it succeeds, it could transform the global REE supply and help Greenland achieve financial independence.⁵¹

⁴⁹ Other profits come from uranium (a byproduct of the REE) and zinc. The precise ratio depends on market prices.

⁵⁰ The four REE are neodymium, praseodymium, terbium and dysprosium.

⁵¹ In theory, the Self-Government Act had devolved full control over licensing of mining projects from Denmark to Greenland government. Yet there were caveats. Half of the annual revenue from raw material extraction above DKK 75 million (about \$12 million) would go toward paying down the block grant (UR 2010). For Greenland to achieve fiscal independence, it therefore needed extremely large and profitable mines relative to the size of its economy.



Figure 7.9 - Prospecting tents and helicopter on Kvanefjeld mountain (Government of Greenland, Ministry of Mining)

Kvanefjeld's location is remote and inconvenient, but Greenland Minerals argued that the site has three big advantages. First, most of Kvanefjeld's deposits are outcropped, or visible on the earth's surface. Second, the site is located very close to a tidewater with year-round shipping access. Icebergs and sea ice are occasionally perilous for shipping in the waters off southwest Greenland, but these risks are likely to recede over time as the climate warms. Third, Kvanefjeld's ores are easy to process cheaply using the latest Chinese concentration optimization technology (Greenland Minerals undated). Later, in presentations to investors and governments, the company would note a fourth reason that Kvanefjeld was valuable: that both the United States and China saw it as a geopolitical football.

In domestic Greenlandic politics, however, Kvanefjeld had very little to do with climate geopolitics. To its supporters, it was a potential cash cow to finance the independence project. This was why the Greenlandic parliament passed the “Large-Scale Law” in 2012 to allow the import of foreign construction workers and exempted itself from Denmark’s “zero-tolerance policy” for the export of radioactive materials. Prime Minister Aleqa Hammond (Siumut), who strongly supported REE and uranium mining on both economic and geopolitical grounds, cast the deciding vote in favor of lifting the uranium export ban (Zeuthen 2017). But almost as many Greenlanders were fiercely opposed to Kvanefjeld on environmental grounds. After the Greenlandic parliament voted, “you could see the opponents of the project—the IA politicians—crying,” Sermitsiaq journalist Walter Turnowsky recalled. “You could hear the singing from the Siumut room. I’ve never seen such an emotional debate in any parliament” (interview with Walter Turnowsky 2021).

Greenland Minerals was now free to apply for a permit to develop Kvanefjeld. But the measure had passed by a razor-thin margin, and the risk clearly remained that if IA returned to power in time, it would try to halt the mine from starting operations.



Figure 7.10 - Anti-nuclear protesters in Nuuk oppose lifting the export ban on radioactive materials, October 2013 (Josefsen 2013)

Outside Greenland, most observers thought that Kvanefjeld's prospects were bright. Between 2009 and 2013, most Greenlandic political parties supported mining. Greenland's annual reports on foreign policy strategy boasted that the European Commission was excited about the "great potential" of Greenland's mining sector (UR 2010), and that Greenland had secured representation at an international mineral fair in China (UR 2012). China was clearly fixated on Greenland's REE. In April 2012, the Chinese Minister of Land and Resources visited Nuuk to discuss mining cooperation. Two months later, Greenland and the European Commission signed a letter of intent to collaborate on mining projects (UR 2013). When Greenland Minerals finished its exploration, it found that the total REE resource at Kvanefjeld was five times larger than previously believed. In 2012, Greenland Minerals bought out the rest of equity rights to the project from other private holders and began to

press the Greenlandic government to revise its mining codes. The Greenlandic government anticipated that constructing the mine could create one thousand jobs (PO 2012).

Greenland and China began to cooperate formally on REE mining in 2014. Greenland's Minister of Industry and Minerals visited China to discuss ways to deepen the collaboration. Greenland Minerals signed a non-binding memorandum of understanding (MoU) on "technical cooperation" with China Nonferrous. Then, in June of 2014, another group of Chinese investors visited Greenland to discuss potential investments in mining and fisheries (Jichang Lulu 2014). By April 2015, the two countries signed a second MoU about extending their cooperation, demonstrating China's keen interest in Kvanefjeld. With these deals in place, Greenland Minerals pushed ahead for approval. It completed the feasibility study in May 2015 and its environmental impact assessment in November. Company officials predicted that construction could start by year-end.

But the local community was turning against the project. Residents in Narsaq, the nearest town, were confused and suspicious about why the company kept changing its plans (interview with Lill Rastad Bjørst 2020). These opponents of mining organized and called for a national referendum on uranium policy, which could potentially halt the project (Noah 2015). In response, Greenland Minerals went on a charm offensive. It leased houses in the town, held meetings with local small businesses, and offered to purchase goods from the local general store. Even Naaja Nathanielsen, the future IA Minister of Natural Resources who would oversee the halting of Kvanefjeld, acknowledged to me that Greenland Minerals had done "everything right."

The problem was with the environmental risk. As Bjørst found in field interviews in Narsaq in 2013, most local residents were not concerned about Chinese workers coming to

their settlement; they feared that the “tailings,” or scrap rock for the mine, would pollute the local water supply. The pro-mining Siumut government, believing that a profitable mining sector was a necessary part of independence project, largely ignored these local objections, even as public opposition to the mine spread to other parts of the country. Elites in Nuuk focused on the strategic qualities of the mine underestimated the extent of public fear about radioactive pollution.

China redoubled its involvement in the project in 2016. When Shanghai-based Shenghe Resources bought an equity stake in Kvanefjeld, Australian regulators approved the deal, since it was a minority 12.5% stake. But in a Chinese-language equity disclosure report to shareholders, Shenghe described a sleeper term in the contract that gave it the “option to increase its equity stake to 60%” once Kvanefjeld received its permit (Jichanglulu 2016, Shenghe Ziyuan 2016). The Greenlandic government determined that Shenghe did not have a “guaranteed option” to take a controlling stake, though Shenghe claimed otherwise (Naalakkersuisut 2017). Greenland Minerals also partnered with China Communications Construction Corporation (CCCC), the main player in the Kalallit airports case, to design a plan to modernize the Narsaq port to export ore from the mine (Birney 2019). In 2019 Shenghe struck a deal with China National Nuclear Corporation to export REE, uranium, and thorium from the mine to China for processing (Lanteigne and Shi 2019). Thanks to its technological cooperation with China, Greenland Minerals reduced its estimated construction costs by nearly half, while increasing its estimated production capability by 8%. These partnerships were not optional for Greenland Minerals, given China’s dominant position in the processing segment of the global REE supply chain.

Shenghe presented itself as a private enterprise, but like Greenland Minerals' other partners it had extensive financial and management links to the Chinese state. The company's chairman held a parallel post as director of China's Geological Survey (Zeuthen 2017). About a quarter of Shenghe's equity was directly controlled by state-owned institutions under the Chinese Ministry of Land and Resources via the Chengdu Institute of Multipurpose Utilisation of Mineral Resources [中国地调局成都综合所]. Two of Shenghe's biggest private shareholders were Wang Quangen and Hu Zesong, who had longstanding ties to the Institute (Jichang Lulu 2016b).

One anonymous Chinese consultant told the Danish researcher Jesper Williang Zeuthen in 2016 that "the interest of Chinese state investors thus far in Greenland was only a small fraction of what would come" (Zeuthen 2018, 129). Shenghe's chairman even told Zeuthen explicitly that China sees Greenland "as a priority, comparable to the [Belt and Road] countries." Zeuthen concluded that the Chinese government was not micromanaging Shenghe's activities. But that the company clearly believed it was serving the Chinese national interest by breaking into the Greenlandic market.⁵²

Far from hiding Shenghe's ties to the Chinese government, Greenland Minerals boasted about them. "Shenghe's relationship with the [Chinese] Institute of Multipurpose Utilization of Mineral Resources of the Chinese Academic of Geological Sciences...ensures

⁵² Zeuthen also found that Shenghe had bought into Greenland Minerals because China's National Development and Reform Commission had blocked China Nonferrous from investing in Greenland for unrelated reasons. Zeuthen conceptualized this as an example of Chinese "fragmented authoritarianism." Chinese companies exploring projects in Greenland were exploratory actors, experimenting with project types and building local relationships while providing a layer of insulation for the Chinese government. "If a company's project becomes a part of the formulated policy, then it gains political will and state resources," Zeuthen argued. On the other hand, if the political winds in Beijing move in a different direction, the company is likely to lose money or even go out of business altogether, since projects are "unlikely to succeed without the support of the Chinese state" (Zeuthen and Raftopoulos 2018, 123–4). These findings align with other Chinese enterprises' behavioral patterns in the Belt and Road countries at the time (Freyman 2020).

that its technical expertise in Rare Earths is top notch,” it told investors. Shenghe was “a key instrument in China’s Rare Earths ambitions” (Pitt Street Research 2018, 9). The company acknowledged that under the “current uncertain relationship” between the superpowers, “Rare Earths could become yet another source of tension” (Pitt Street Research 2018, 10). But this was framed as a *positive* feature of the project. The implication was that either or both superpowers might be willing to pay a premium for access to Kvanefjeld at some point in the future.

Once Shenghe had bought in, Kvanefjeld became connected to the broader climate geopolitics game in Greenland. Danish newspapers began to report extensively on the deal, asking whether China’s involvement would anger the United States. Danish Rear Admiral Nils Wang, Denmark’s most prominent military voice on China issues, argued that Shenghe’s move illustrated “classic Chinese-style long-term thinking.” China, Wang said, was “slowly creating for themselves in Greenland the same kind of soft-power influence they already have in Iceland” (Hannestad 2016).

China’s ultimate goal, presumably, was to leverage that influence to become an Arctic power while consolidating its control of the global REE supply. The Greenlandic government, now led by Kim Kielsen, must have been aware that China saw Kvanefjeld project as significant under climate geopolitics. Aleqa Hammond spoke about the issue frequently. “If Greenland opens our rare earths, we will break China’s monopoly,” she told me. “China’s monopoly breaking is of great danger [sic] to the Chinese economy worldwide. That is why China is so interested in having influence in Greenland” (interview with Aleqa Hammond).

Yet local opponents of the project were emboldened and found their own foreign partners to help push back. They partnered with NOAH, a Danish environmental advocacy group, to advise on their public relations campaign (interview with Palle Bendsen 2021). They brought in a Dutch expert who argued that the company was understating the amount of uranium that would run off into the Lake Taseq by a factor of ten (Noah 2017). To rebut these critiques, Greenland Minerals undertook new studies: a social impact assessment and a maritime safety study relating to the transport of the ore out of the site (Pitt Street Research 2018). But time was not in the company's favor. Greenlandic regulators aligned with IA leaked information about the project to opposition groups, inflaming both the protesters and the company representatives. IA complained about the deal and called for a referendum (Inuit Ataatigiit 2019). Across Greenland, public opposition to the mine mounted.

Greenland Minerals gambled that the mine was so geopolitically important that either Chinese or Western investors would make sure it went ahead. In November 2019 the company excitedly wrote to investors that rare earth prices were rising fast “after speculation in the markets that China may curb the supply of rare earths to the U.S. in retaliation for tariff hikes and the Huawei ban” (Greenland Minerals 2019). “One could argue,” the company continued, “that the relative international neutrality of Greenland vs Australia makes Kvanefjeld strategically appealing to both the East and the West, increasing the range of potential offtake partners for the vast output.” Shenghe was more cautious. In 2019 it noted that there was still a risk that an anti-uranium government might win next election, and that “the U.S.-China Trade War and related geo-strategic issues may impact the Rare Earths market in a way that makes project financing of Kvanefjeld difficult” (Shenghe Ziyuan 2019).

Ultimately, however, it was domestic politics—not geopolitics—that killed Kvanefjeld. Greenlandic public opinion had turned against the project (Breum 2021). One survey found that 45% of Greenlanders were strongly opposed to Kvanefjeld, while only 12% were strongly in favor (Lindstrøm 2021). As a result, IA handily won the election, and one of its first actions was to halt progress on the mine. IA also stopped all exploration for offshore oil and gas, on environmental grounds.⁵³

Kvanefjeld therefore showed how climate geopolitics could drive two superpowers to pay inordinate strategic attention to an economically unprofitable venture in a remote part of the world, but it also showed how the process and outcome of the climate geopolitics game was contingent on domestic politics and local factors. As Greenlandic Minister of Mining and Raw Materials Naaja Nathanielsen told me, it would not be until well into the 2030s that climate change would have any meaningful impact on the cost structure of Greenlandic mining. “It will be a bit easier because the ice might disappear,” she said, but it would not a game-changer in the short term. It was precisely because of the ambiguous and long-term nature of the strategic prize that perceptions and third party behaviors mattered so much to the outcome. Greenland faced other risks from climate change, Nathanielsen believed, and it was far from clear that Greenlandic would be able to sustain a climate geopolitics game, bargaining with the superpowers over a period of decades. In conclusion, even though both superpowers and the mining company itself perceived Kvanefjeld to be of great geopolitical importance, the project failed for reasons unrelated to climate geopolitics.

7.8 Conclusion

⁵³ IA presents itself as a pro-independence party. The hardline pro-independence Naleraq is the second-largest member of its coalition, and its leader Pele Broberg is foreign minister.

This chapter has argued that climate geopolitics was an important consideration in the ideation, negotiation, and conclusion of the three largest Chinese investments proposals in Greenland. China's motivations in all three projects in Greenland were at least partly connected to its climate geopolitics strategy. The United States and Greenland gradually recognized this and adjusted their broader climate geopolitics strategies accordingly. By 2021, all sides had developed theories of what climate geopolitics is, and how it works, based on their experiences competing and bargaining with one another in Greenland.

However, the cases also show why climate geopolitics is a contingent and context-dependent process, not a deterministic rule that can predict specific behaviors or outcomes. For a decade, China had a more elaborate theory of climate geopolitics than either the United States or Greenland. Yet this did not help China win the projects it initiated. In Grønnedal, China tried for the first time to operationalize its climate geopolitics strategy in Greenland. It failed—even though the United States and Denmark did not yet fully grasp the climate aspect of geopolitics in Greenland—because it misunderstood the political role of Greenland within the Danish Realm, and Denmark's belief that a superpower scramble for interest in Greenland did not serve its interests. In the Kalaallit Airports case, China tried again, this time in a project that Denmark presumably did not have the power to block. But, having learned from Grønnedal, the Greenlandic government recognized China's intentions under climate geopolitics and exploited them to provoke the United States and Denmark into making a counteroffer. China underestimated the power of small state bargaining to throw its plans off course. In Kvanefjeld, all sides understood that Greenland's REE resources may not be geopolitically valuable today, but that climate change would make them progressively more valuable over time. China recognized this first and locked in its participation in a

project that Denmark did not have the power to veto directly. Yet the project failed for reasons relating to Greenlandic domestic politics that were completely independent from the China-U.S.-Denmark stand-off. China's failures show the dangerous nature of assuming that climate geopolitics is a static or deterministic phenomenon rather than a dynamic, recursive one.

The fact that domestic politics played a major role in mediating and shaping the process of climate geopolitics should not be surprising, and it is not a reason to ignore or dismiss climate geopolitics. On every continent where China has made large strategic investments, it has found that domestic politics, and the agency of host countries, matter a great deal (Freymann 2020). Just as the changing political context shapes the arc of project-specific negotiations, projects that are perceived as significant can influence the evolution of superpower rivalry. The macro and micro levels are in constant interaction.

Yet, even though climate geopolitics did not directly determine the consequences of the three cases in this chapter, it was profoundly important to all three—and perhaps even more important to the broader lessons and reactions that the participating governments took away. Chinese enterprises' experiences engaging in Greenland taught Chinese experts that the country should revise its playbook for operationalizing climate geopolitics. Observing China's strategy, and trying to compete with it, forced the United States, Denmark, and Greenland to recognize that willingly or not they were playing a new kind of geopolitical game. More generally, these three case studies of Chinese ventures in Greenland illustrate how climate geopolitics can elevate obscure, hyper-local deals between superpowers and small states in remote parts of the world and make them appear to have much higher stakes than they would if none of the parties were anticipating future geographic change. They also

suggest that the superpowers are growing more sophisticated in their practice of climate geopolitics—and may apply concepts and techniques they developed in Greenland to other countries and regions.

CHAPTER 8

Transnational Comparisons

8.1 Introduction

The preceding chapters have characterized the superpower competition over Greenland as an expression of an emerging phenomenon of climate geopolitics. This chapter argues that they are applying similar strategic logic transnationally, and that small polities are mostly responding in similar ways. The first half of the chapter considers how China and the United States have extrapolated their strategic analysis of climate geopolitics from the Arctic to other regional domains. The second half discusses how climate geopolitics has affected U.S.-China competition in four small island polities—the Faroe Islands, Iceland, Kiribati, and the Maldives—over the past decade. The conclusion brings this analysis together and ventures some exploratory hypotheses about the general determinants of climate geopolitics.⁵⁴

Since around 2018, the Chinese and American governments have begun to articulate principles of climate geopolitics in more explicit ways and apply techniques connected to climate geopolitics in a range of climate-exposed small island states. The Chinese literature on climate adaptation in small polities broadly is less systematic than the literature on the Arctic specifically, discussed in Chapter 4. Yet I present evidence that Chinese security and policy analysts from a range of top universities and government ministries agree about the basic nature of the phenomenon and the best strategy to respond to it. The key documents’ policy recommendations suggest that China may be beginning (or planning to begin) to use

⁵⁴ In this chapter, for ease of reference, I use the term “small polity” as a catch-all for states and SNIJs.

climate adaptation aid to build ties with elites in strategically located small island polities exposed to climate change, in exchange for such access to these locations that would mean they later become strategic strong points. This line of analysis did not become explicit and coordinated until around 2018. Consequently, the topic is fast-moving and deserves close ongoing scrutiny in the years ahead.

Next, I argue that the United States government under both the Donald Trump and Joe Biden administrations arrived at a similar assessment: that China is beginning to apply the logic of climate geopolitics in multiple regions, but particularly small island states in the Pacific. As detailed in Chapter 5, the Trump and Biden administrations used very different rhetoric to frame this issue in public, yet they pursued a strikingly similar policy toolkit in practice. This included devoting disproportionate diplomatic engagement and aid to a diverse basket of small island states while making clear that these measures were intended largely to compete against Chinese influence.

The second half of the chapter tests whether Greenland offers a good general model for the local dynamics of climate geopolitics. I selected the four case studies—on the Faroe Islands, Iceland, Kiribati, and the Maldives—to test for Greenland’s potentially confounding features. Like Greenland, all four are island democracies with populations ranging from 50,000 to 600,000. All four are highly economically dependent on tourism and fishing, anticipate direct social and economic disruption as a result of future climate change, and are located in maritime regions that China considers strategic. Historically, all four have had close economic or political relations with the United States. All four were on the receiving end of Chinese commercial diplomacy between 2009 and 2021. In all four cases, at least one senior official has expressed awareness that the superpowers are practicing versions of

climate geopolitics. Yet each case has different salient features in common with Greenland. This exercise allows me to control for various ways in which Greenland might be idiosyncratic.

Based on this comparative analysis, I propose six general hypotheses about the conditions under which my theory of climate geopolitics applies. First, climate geopolitics can affect both small states and SNIJs. Second, small polities need not participate in a climate geopolitics game if they already have sufficient shelter from a larger power. Third, the key condition for climate geopolitics is that the small polity perceives a need to adapt to climate change, economically and socially, in ways that require external assistance. Fourth, small polities that are vulnerable to climate change have less bargaining leverage than those perceived as likely to gain from climate change. This may be because they are driven into bargaining out of desperation, because their traditional patrons do not offer them sufficient adaptation assistance. Fifth, domestic politics in the small state matters in shaping how climate geopolitics ideas are operationalized, particularly in democracies with frequent transfers of power between two major parties. This could be because small states' adaptation strategies tend to be sweeping in scope while vague and long-term in nature, and because the two parties may favor leaning towards different superpower patrons. Sixth, the superpowers perceive a growing need to fund and support climate adaptation, very broadly defined, in strategically located small polities, if only to prevent the other from gaining incremental advantage. Given space constraints, this dissertation cannot fully develop or prove these hypotheses. My goal in presenting them is to sketch out what a more general theory of climate geopolitics might look like and to propose some falsifiable hypotheses that future studies might test comparatively.

8.2 Chinese views on climate geopolitics in small island states

Chinese experts on the South Pacific and Caribbean believe that climate change poses a potential “existential threat” to many small island states (Li et al. 2020). In equatorial regions, they expect that sea levels will rise faster than the global average—as much as one to two meters over pre-industrial levels by 2100. This will greatly constrain the already limited land resources in many countries. Large swaths of coastal land will be inundated or rendered uninhabitable. Inevitably, “people will be displaced” (Zhao 2016). In Caribbean islands, almost all major cities are located less than one mile from the coast, so some of the largest and densest population centers will either migrate or become vulnerable to extreme weather. Thus, Zhao concludes, “climate change poses not only a development problem, but also a survival problem.”

Adaptation is the only solution. Small island states contribute less than 1% of global carbon emissions, so it is beyond their capability to mitigate climate change. Moreover, “even if the international community were to undertake immediate and maximum emission reductions, global warming would continue for a considerable period of time,” Zhao notes, citing IPCC reports. “Not to mention the fact that the current international mitigation efforts are not even close to meeting the 450 ppm and 2° C reduction targets.” For small island nations and their foreign donors and partners, “adaptation to climate change should be the first priority.” As Kang Xiao of Beijing Foreign Studies University puts it, “survival is the first dimension,” the *sine qua non*, of adaptation (Kang 2019).

In the view of China’s regional experts, the most important aspect of climate change adaptation in vulnerable Pacific islands is urban planning and infrastructure. Food can be

imported. Less valuable and less densely populated land can be abandoned. In population centers, however, investments in resilience are necessary, or natural disasters and humanitarian crises will eventually become routine. “Since island countries have limited land area, the core [objective] of urban planning [adaptation should be] to make full use of land space to achieve urban spatial transformation under the constraints of climate change,” Kang argues. In other words, most flood-prone island nations will soon need to cluster their population in a few well-fortified urban areas while abandoning less important land to the sea. This implies a need for significant infrastructure investment.

China is well positioned to meet these needs. “The construction of artificial islands and urban relocation are the most direct ways [that China can] help South Pacific island countries mitigate the threat of climate change and meet their survival needs,” Kang argues, he favorably cites the Maldives’ plan to build a sea wall to shelter the capital (Kang 2019), concluding: “[th]e highest level [最高层次] of China's climate assistance to island countries in the South Pacific should be to help them with urban planning for climate change adaptation.” China’s climate assistance programs should either “help [aid recipients] build artificial islands with higher elevation using China’s strong engineering capacity or raise the elevation of some areas under the existing geography and relocating local residents’ houses on them.” Kang argues that “this idea could also address [the problem of] urban flood control in island cities as a result of climate change.”

As China’s emissions grow, the international community will increase pressure on it to act. “There is a view in the [Pacific] region that China, as a major developing country, should provide substantial climate assistance . . . rather than merely expressing concerns through agreements,” Liang Jiarui notes (Liang 2019). Liang wrote this in his capacity as

chairman of project commissioned by the Ministry of Natural Resources, entitled a “Study on the High-Level Meeting Mechanism between China and South Pacific Small Island Countries.” The fact that small island states expect China to come to the rescue is perceived as both a problem and an opportunity for Beijing.

As Chen Xiaochen argues, small Pacific Island countries “have an international influence not commensurate with their size” because they benefit from the principle of sovereign equality and have representation in international fora (Chen 2010).⁵⁵ Thus, China has a double interest in maintaining good relations with them. If these small states are displeased with China’s contributions, they could embarrass China in international climate negotiations and pressure China to undertake more expensive climate mitigation than it would otherwise be prepared to. Conversely, if China can “work together” with these countries on “climate change adaptation and mitigation” and “strengthen climate cooperation,” they can “safeguard the interests of both sides in the global climate governance process” and “promote the overall development of relations” (Chen 2010). China therefore has status reasons to help small climate-exposed polities, unrelated to the benefits of strategic strong points.

China has used aid and personal diplomacy to keep up its relations with small island states. “Small countries are politically concentrated, and the direction of their domestic and foreign affairs is often determined by a particular political figure and his or her family or ministry,” writes Qi Wei in her study of the Seychelles (Qi 2020). For example, the country’s first president “was of Chinese descent, but was pro-Western in his thinking and felt close to

⁵⁵ Xiaochen Chen, 小国研究视域下太平洋岛国的外交策略 [Diplomatic Strategies of Pacific Island Countries from the Perspective of Small States Studies]. 国际关系研究 [International Relations Studies] 2 (2020): 109–131.

the Taiwanese authorities at the time.” Subsequent presidents of the Seychelles have maintained good relations with Beijing. Thus, Qi recommends that China “get to know the leaders of the small countries well, work well with them, understand and agree with them politically, and communicate with them emotionally. This will prevent their foreign policy from wavering and help develop long-term healthy diplomatic relations.”

These observations show that Chinese international relations experts recognize that small polities operate differently than larger ones and tend to respond to different diplomatic techniques. They also suggest one way that China might operationalize a strategy to use climate aid as a diplomatic tool: form a personal relationship with a country’s ruling elite and offering Chinese support for their climate adaptation plans. Below, I will show that China has pursued precisely this strategy in Kiribati.

Despite these conceptual observations, for most of the 2010s China’s aid and investment policies toward climate-affected small polities did not have the desired effect. “At present, the main tool for developing diplomatic relations with Pacific Island countries is foreign aid,” Liang Jiarui argued in 2019. But China was not using its aid effectively. Even though China had massively increased aid and trade to Pacific Island countries in recent years, they were still “suspicious” of China’s strategic motives (Liang 2019).⁵⁶ Liang hypothesized that a cultural explanation may play some role in this. “China is typically Eastern, while Pacific Island countries currently have both Western and indigenous cultural genes, making them culturally incompatible,” he argued. If cultural difference can explain

⁵⁶ According to the Lowy Institute, between 2006 and 2017 China provided \$1.5 billion in foreign aid (grants and loans) to the Pacific Islands region. By 2017, China had become the third-largest donor to the region. However, these figures do not count China’s commercial construction deals. By the Chinese government’s statistics, Chinese construction activity in the region was \$958 million in 2017, almost six times greater than its foreign aid. “Pacific Aid Map,” 2021. See also “Statistic,” 2021.

why China is “far from winning hearts and minds,” China clearly needs to rationalize its programs for public opinion management and foreign aid.

Kang has posited that China can achieve an economic and geopolitical win-win by helping small states build climate-resilient infrastructure. When China helps island countries build artificial islands and urban relocation, it can “simultaneously help them build infrastructure, including ports.” The recipient country can benefit from “enhanced external transportation capacity” and advantages for domestic industry. Local residents enjoy a “new space for survival and development, which will attract new industrial, transportation options, energy, and living facilities” on reclaimed land, or land newly protected by sea walls. In return, China “adds pivot points [增加支点] to the southern route of the 21st Century Maritime Silk Road.” This is another extension of the Belt and Road Initiative, essentially the equivalent of the Polar Silk Road for the Western and South Pacific.

American “hegemony” in the Pacific stems from its control over key ports astride strategic maritime routes, Liang Jiarui and Gao Wensheng argue (Liang 2019; Gao 2017). Guam, located in the center of the Western Pacific Ocean, is a particularly valuable locus of operations for the U.S. Navy. Multiple strategic sea lanes transit nearby, and U.S. forces in Guam can fly to any location in the Western Pacific to carry out missions. Other U.S.-occupied or controlled islands in the Pacific include Midway, Hawaii, Wake, Saipan, the Marshall Islands, and Palau. “By virtue of these strategic islands, the United States controls the world’s important strategic sea lanes,” Liang argues. Without its own “strategic strong point ports” or “strategic pivot ports” [中国的战略支点港口], China’s navy cannot compete with the United States, and will “have to remain very passive.”

China believes that the South Pacific will grow in geopolitical importance in the coming decades. The region is still “far from the hotspot of international politics” [远离国际政治的热点地区], Gao argues. But the geographic realities of U.S.–China competition have made it a “truly strategic maritime corridor.” The risk that the United States might block these sea lanes to choke off China’s imports cannot be ruled out. “The [purpose of] U.S. control of strategic sea lanes is clearly not to protect the security and smooth flow of the world’s sea lanes per se, but to protect U.S. interests,” Gao declares. “These include oil and energy access, forward military deployments, and [the option] to act as with a pincer movement against other countries.” As in the Arctic, time is also on China’s side. Liang is optimistic that this U.S.-dominated regional order is breaking down. “The trend of multipolarization in the Pacific is unstoppable,” he writes. “The old system of hegemony, characterized by U.S. control of strategic sea lanes, is increasingly being broken down. The South Pacific region is entering an ‘era of strategic competition,’ which requires strategic rationality and prudent thinking.” Thus, China must seize the window of opportunity to establish strategic pivot ports before it is too late.

Gao’s study assesses the pros and cons of several potential strategic strong points in the region. The most promising ports, according to his criteria, are Suva (Fiji), Apia (Samoa), Port Moresby (Papua New Guinea), and Luganville (Vanuatu). Strategic strong points must “offer both economic and military value,” Gao argues. “If a port has no economic value, it is very difficult to build, operate, and maintain,” presumably because it attracts attention and creates political problems in the host country. Commercial ports are therefore the best candidates. This may have reflected a lesson learned in Grønnedal. But, while profitability is a prerequisite, “the military value [军事价值] of strategic pivot ports cannot be ignored,”

Gao adds. All four ports on his short list are located along important sea lines of communication through the Pacific. “If Chinese warships can call at these ports in the future, they will be important overseas supply points, personnel rest and recuperation points, and repair points,” he writes. The ultimate goal is to “maintain a permanent presence there” (Gao 2017).

Other Chinese analysts cite historical examples to argue that small states will lean toward partnership with China as climate change leads to “multipolarization.” In the 1970s and 1980s, the United States and Soviet Union increased support for Pacific island states, each hoping to prevent them from aligning with the other (Chen 2020). In the 1980s, some Pacific islands “consciously used the fisheries cooperation with the Soviet Union to put pressure on the West, especially the United States.” When the Soviet Union and China ratified the South Pacific Nuclear Free Zone Treaty in 1985, the United States would have begun to lose influence if it maintained its non-ratification position, so it increased economic cooperation with Pacific island nations and renegotiated the South Pacific Tuna Agreement in 1987 on terms more favorable to the islanders than expected. After the end of the Cold War, foreign powers “withdrew” from the South Pacific, and the island states’ influence in global politics declined.

These historical arguments express a general Chinese observation about geopolitics: that small states in general may simply have more bargaining power in a bipolar global system than a unipolar one (Freyman 2020). “In recent years, with the deepening of global governance and the intensification of the great power game, external support [for island states] has become stronger again,” Chen argues. Rather than “waiting passively” this

external support, Pacific islands have taken the initiative by “exploiting” conflicts between the major powers to “gain rights and interests for themselves.”

Today, the logic for small state bargaining is fundamentally connected to the expectation of future climate change. Liang argues that Pacific island states are learning to “play the climate diplomacy card” [主打气候外交牌]. That is, they can use climate-related cooperation projects as a bargaining technique to lean towards one superpower in the hope of extracting concessions from the other. This analysis is identical to Zhu Gangyi’s argument that Greenland won “bargaining chips” [谈判筹码] by soliciting Chinese support for the Kalaallit Airports project (Zhu 2019). Liang does not explicitly say that China should “play the climate diplomacy card” by offering climate adaptation aid in exchange for geopolitical access, but he strongly hints it.

The Chinese government appears to be rethinking its approach to climate aid along similar lines. The most recent open-source review of Chinese climate aid policy was published in 2020 by Li Yuanyuan and a team of researchers from the Center for Environmental and Economic Policy Research at China’s Ministry of Ecology and Environment [生态环境部环境与经济政策研究中心]. Using questionnaires and elite interviews, Li et al. set out to identify the key areas “in which South Pacific and Caribbean countries need cooperation in addressing climate change,” and how well the broader China-led “South-South climate cooperation framework” was meeting those needs (Li 2020).

The result was a scathing indictment of China’s climate aid. The problem was not that recipients were culturally inclined to distrust China, as other commentators had speculated, but because “the countries in the South Pacific and the Caribbean are exposed to the impacts of climate change and are facing existential threats—so adaptation to climate change is more

urgent, realistic and important than mitigation.” In other words, China was not matching its climate aid to recipient countries’ most pressing needs. Rather than funding mitigation projects like renewable power generation, it should redirect aid to adaptation projects.

Li listed several ways that China could help with adaptation. It could help islands “cope with the threat of sea level rise” through major infrastructure investments. It could help them with “climate observation, early warning, infrastructure protection, disaster prevention and mitigation, and health care” through “effective financial and technical support.” It could “provide technical support to identify and analyze climate change risks, such as quantitative analysis of sea level rise and impacts, and early warning of meteorological observation.” It could “help limit the damage to marine resources and other economic pillars through the rational development and use of natural resources” (Li et al. 2020). It could also help improve island nations’ food security as saltwater contamination to fresh water sources threaten agricultural production.

Li then discussed how these practical recommendations could help China improve its public image in climate-exposed countries. “At present, China’s foreign aid projects are mainly implemented directly to the recipient countries, but rarely carried out jointly with third countries or international organizations,” the authors found. As a result, “China’s aid projects have been questioned internationally and obstructed by local powers.” To address this problem, they called on the Chinese government to “build a strategic consensus on climate change through climate cooperation with the South Pacific and Caribbean countries under the existing cooperation framework.” In other words: the general approach of targeting aid to the most climate-vulnerable developing countries made strategic sense. By tweaking

its project management practices and approach to political coordination, China could easily draw more diplomatic and strategic benefits from its climate aid programs.

If these solutions were so obvious, then why was China prioritizing renewable energy projects in countries that had no real interest in mitigation? The answer was poor management and bureaucratic drift. Li found that China lacked “any legal and policy-level regulations on the principles and purposes of assistance” to countries in the South Pacific and the Caribbean. Because “there is no top-level design from a strategic and long-term perspective,” the content, scale, focus areas, implementation agencies, procedures, and funding processes of China’s climate aid are “rather scattered.” Li contrasted this to developed countries’ climate aid programs, which “usually follow rules and regulations, set clear objectives, and carry out a top-level design when carrying out foreign aid for climate change.” This was a harsh self-criticism. Li softened the blow by predicting that China could improve its outcomes by drawing lessons from these unspecified developed countries. The subtext was that if China clarified its strategic objectives and aligned its aid with what recipient countries actually wanted, it could achieve a strategic win-win by replacing much of its mitigation assistance with adaptation assistance.

This section has shown that Chinese analysts have begun to extrapolate climate geopolitics arguments from the Arctic to other maritime domains, particularly the Western Pacific. This debate emerged in earnest around 2018 and continues to the time of writing. This debate acknowledges the obvious realities that climate change and climate geopolitics manifest differently across regions. In the Arctic, climate geopolitics refers to the expectation that future climate change will indirectly accelerate geopolitical competition. The superpowers are already engaged in a geopolitical competition in the Indo-Pacific; climate

geopolitics relates to how they might operationalize climate change by courting strategically located small states that vulnerable to climate impacts.

Yet the strategic logic is similar across regions. In both cases, China needs strategic strong points and reliable foreign partners to project naval power and operate effectively in key maritime domains. In both cases, small climate-exposed polities have complementary needs, since most cannot afford adaptation without external support. Small states may therefore play the “climate diplomacy card,” bargaining for resources and political support, either from a position of strength or a position of weakness. In either case, Chinese analysts express optimism that climate geopolitics will accelerate the ongoing decline of American “hegemony” and the “multipolarization” of key regions.

I have also argued that analysts in key Chinese government ministries are considering how China can better align its climate aid policies with its broader geopolitical strategies and goals. The most important source is the policy analysis from Li Yuanyuan’s team at the Ministry for Ecology and Environment, which sets out an agenda to practice a more sophisticated and effective form of climate geopolitics, based on clearer management practices and better analysis of local conditions. Li offers a persuasive institutional explanation of why it took China so long to learn the right lessons from its mistakes in Greenland. It also shows how, after several false steps in the Arctic, China’s global climate geopolitics strategy has grown more sophisticated, and is likely to keep iterating and adapting in the future in response to U.S. actions and results on the ground in the key small states.

8.3 U.S. responses to Chinese climate geopolitics

The United States recognizes the Chinese strategy described above and has developed its own slate of policies to compete. Most notable was the Biden administration's announcement in March 2021 that the United States would launch the "Small and Less Populous Island Economies initiative (SALPIE), "an economic cooperation framework designed to strengthen U.S. collaboration with island countries and territories in the Caribbean, North Atlantic, and Pacific regions." SALPIE had a vague mandate to focus on "COVID-19 economic challenges" and climate adaptation. The White House noted that the initiative would focus "mostly" on islands with populations below one million, some of which have high levels of GDP per capita, but are "among the most vulnerable" countries on earth to climate change because "their economic resilience is increasingly threatened by more frequent and severe storms, rising sea levels, and warming ocean temperatures" (White House 2021).

SALPIE has a clear geopolitical agenda to compete with China. According to the "fact sheet" that the White House released upon the program's launch, SALPIE is intended to go "beyond addressing more immediate economic and humanitarian consequences of the pandemic and climate change." The U.S. government also "welcomes the opportunity to partner with these economies to advance important long-term objectives," which include "countering predatory investment practices by malign actors" (White House 2021). The Trump administration had frequently used the word "predatory" to describe China's geoeconomic practices, particularly the Belt and Road (White House 2018). The use of the word in this document indicated that the purpose of SALPIE was to help small island states avoid having to resort to depend on China in the process of adapting to climate change. It also signaled that the Trump and Biden administrations had diagnosed China's strategy in

similar ways, to the extent that they used the same linguistic formulations to describe it. “It’s important to strengthen our alliances, particularly among smaller countries that might otherwise come under a certain amount of pressure from China,” a senior Biden administration official told Voice of America when the initiative was launched (Herman 2021). The administration also structured SALPIE to mirror China’s whole-of-government strategy to climate aid. The program is jointly administered by twenty-nine separate U.S. departments and agencies under the supervision of the National Security Council.

Meanwhile, the Biden administration sought to dramatically scale up funding for its broader climate aid and investment programs. Its Executive Order 14008, “Tackling the Climate Crisis at Home and Abroad,” ordered the federal government to “immediately begin to develop” a national plan for global climate financing. The interagency process to produce the plan would be led by the Secretaries of State and Treasury and the new Special Presidential Envoy for Climate and supported by the heads of the United States Agency for International Development (USAID), the International Development Finance Corporation (DFC), and “any other agency providing foreign assistance and development financing.” The E.O. instructed them to “mak[e] strategic use of multilateral and bilateral channels and institutions, to assist developing countries in implementing ambitious emissions reduction measures, protecting critical ecosystems, building resilience...and promoting the flow of capital toward climate-aligned investments.”

As of November 2021, the United States government had developed the executive order into an interagency policy framework” (White House 2021). The Biden administration did not explicitly admit that these efforts related to competition with China, but they justified them on security grounds. “International climate finance is an investment in our own

security,” the study group concluded. It is “both reasonable and necessary to protect and advance U.S. national and economic security.”

Biden threw his weight behind this effort in his UN General Assembly speech given in September 2021. He pledged to “work with Congress” to quadruple U.S. climate aid to poorer countries to \$11 billion annually by 2024 (Colman 2021). At the COP26 summit in Glasgow, Biden announced a new program, the President’s Emergency Plan for Adaptation and Resilience (PREPARE), to provide to provide \$3 billion in adaptation finance annually to developing countries. The program had a wide-ranging mandate, including that of helping partner countries deal with the broadly defined “secondary effects of climate change,” which could include security and geopolitical effects (White House 2021). As the following sections will show, the United States Agency for International Development (USAID) under administrator Samantha Power also greatly increased its allocation to climate adaptation projects, particularly in vulnerable island states like the Maldives.

The 2021 National Intelligence Assessment discussed in Chapter 5 also noted that Pacific small island states were among the world’s most vulnerable countries to climate geopolitics. The United States is in a “relatively better position” than most other countries to deal with the cost of dislocations caused by climate change, largely because it has “greater resources to adapt,” the report concluded. China, too, faces less favorable geography for climate change, but is likely to adapt relatively successfully since it has “the financial and technological resources” both to “compete successfully in markets for solar and other clean energies” and to “limit the damage from climate impacts.”

Instead, the U.S. intelligence community predicted that the greatest geopolitical and security impacts of climate change would be in developing countries that would struggle to

adapt, particularly eleven countries and two “regions of great concern”: Central Africa and “small island states in the Pacific.” The risk of “instability” in these countries would likely create “additional demands on U.S. “diplomatic, economic, humanitarian, and military resources,” it claimed. The report did not explicitly link any of these at-risk countries and regions to great power competition with China. But without a strategic connection to China, it was not clear why “instability” in small Pacific island states should merit a significant expenditure of resources from the U.S. government.

In sum, aware that small climate-exposed states risked to falling into dependence on China, the Biden administration began to formulate an alternative to Beijing’s climate geopolitics strategy. Chapter 5 traced in detail how the United States government came to accept that the climate security is intimately connected to geopolitics, culminating in Pentagon’s admission in October 2021 that “competitors such as China may try to take advantage of the impacts of climate change to gain influence” (Department of Defense 2021).

This section has shown how the Biden administration began to institutionalize that assessment into a whole-of-government strategy to compete. A key feature of this strategy involves a broad definition of climate adaptation and a disproportionate focus on small island states that might be vulnerable to falling under Chinese influence. There are caveats: the policy is in its early stages and the Democratic party remains circumspect about articulating the link between climate change and geopolitics. Yet the evidence suggests that the Chinese and American climate geopolitics strategies have recently begun to expand beyond the Arctic—and are continuing to evolve in tandem.

8.4 Case selection

The previous sections have demonstrated that the United States and China have begun to extrapolate theories of climate geopolitics from the Arctic to other regions. The second half of the chapter considers whether, and in what ways, Greenland is a representative case study of how climate geopolitics works in a small island polity. I do this by comparing and contrasting Greenland with the Faroe Islands, Iceland, Kiribati, and the Maldives. All four are island polities with populations ranging from 50,000 to 600,000 that have become secondary focal points of U.S.-China geopolitical competition. Together, they cover three regions—the Arctic, the South Pacific and the Indian Ocean—that have been a focus of China’s maritime and naval strategy in the so-called “far seas” [远海].

Greenland has several idiosyncratic features that set it apart from other small island polities. This creates a possible risk of confounding variable bias. I address this problem below by listing, analyzing, and categorizing some of Greenland’s distinctive features, and showing how I use case selection to control for them.

The first distinctive feature is Greenland’s sovereign status. As Chapter 6 described in detail, Greenland is not a sovereign state, but it is also more autonomous than most sub-national island jurisdictions (SNIJs). Furthermore, as Chapters 4 and 5 have shown, many observers inside and outside Greenland *perceive* it as a polity on the way to independence. Greenland is also unlike most SNIJs in that it operates its own diplomatic representations in major world capitals. It is therefore not initially clear whether Greenland belongs in the category of independent microstates, such as Iceland or the Maldives, or alongside other semi-autonomous sub-national jurisdictions (SNIJs) such as the Faroe Islands or the Åland Islands. I will argue that the category distinction between small states and SNIJs of similar size is not very significant. To test this claim, I consider both the Faroe Islands, which holds

similar legal status to Greenland within the Danish Realm; and Iceland, a former colony of Denmark that is now an independent Arctic state.

The second notable feature is Greenland's geography. Relative to other small island polities, Greenland has an extremely low population density; its population is smaller than that of the Cayman Islands, but its landmass is 8,200 times larger. Greenland's enormous territorial size is one reason that it is strategically valuable. But size also creates distinctive economic and security challenges. Greenland has one of the most inhospitable climates and terrains of any small state or SNII. Its northern coastline is accessible only by icebreaker. In the south, the seas can be perilous in the summer months. Storms and atmospheric disturbances are frequent, disrupting radio communications and civil aviation. Given the small population, topography, and vast distances involved, it is not economically viable to connect Greenland's settlements with roads. As a result, Greenland's human geography resembles that of a far-flung archipelago nation. Kiribati and the Maldives, which consist of archipelagoes spread out over vast maritime domains, face similar challenges financing their infrastructure needs. By contrast, the geography of Iceland and the Faroes allow for more clustered populations, and infrastructure there is far better developed.

Third, and perhaps most importantly, Greenland is distinctive because it could potentially benefit from climate change in some ways that most other small polities cannot. As Chapters 2 and 6 have shown, and as the United States intelligence community believes, warming temperatures will make Greenland's climate more temperate and push lucrative new fish stocks into Greenlandic waters. Melting sea ice could eventually attract maritime transport if the NSR opens, creating opportunities in Greenland's tourism, fishing, mining, and logistics sectors. Growing superpower interest in the Arctic due to a shared awareness of

climate geopolitics also makes Greenland an appreciating strategic asset. By contrast, the direct negative impacts of climate change on Greenland in the form of permafrost melt and social dislocation are significant but not existential.

Greenland's largest towns and settlements are built well above sea level, so they are relative secure against sea level rise and extreme weather events. The Faroes and Iceland are in a similar position; it is not an accident that the most resilient polities to climate change in this century are likely to be those at high latitudes (National Intelligence Council 2021). By contrast, Kiribati and the Maldives are low-lying archipelago states that are almost certain to lose on net from climate change. Their population centers, critical infrastructure, and freshwater resources are vulnerable to sea level rise. Over the long term, extreme weather events could imperil their finances, public health, and even social and institutional stability.

The question is whether climate geopolitics is impacting interactions between superpowers and small states in similar ways in small states that are likely to gain from climate change, as in small states that are likely to lose.

	Sub-national island jurisdiction	Large geographic area	Relatively sheltered from sea level rise	Large climate adaptation infrastructure deficit
Greenland	X	X	X	X
Faroe Islands	X		X	
Iceland			X	
Kiribati		X		X
Maldives		X		X

Figure 8.1 - Common idiosyncratic features of the five case studies

Due to space constraints, this chapter draws less heavily on local language sources and elite interviews than the Greenland case. Instead, I draw primarily on English-language

secondary sources and a few key primary sources and check my conclusions for each case against on-background interviews with country-level and regional experts.

8.5 Faroe Islands

The Faroe Islands and Greenland have strikingly geographic, political, economic, and legal similarities. Both are self-governing territories of the Danish Realm, located in the North Atlantic astride the strategically important Greenland-Iceland-UK (GIUK) gap. In both countries, Danish is widely spoken, but the local language (Greenlandic and Faroese) is dominant. The population of the Faroes is fifty-two thousand people; in Greenland it is fifty-six thousand. Both are economically dependent on fisheries exports and Danish block grants.⁵⁷ Both expect to see direct economic benefits from climate change as fisheries yields rise, the NSR brings the possibility of transshipment business, and a warming climate lures more tourists. Both see China as a potential export market. The Faroes sell a large share of their fisheries to Russia and a growing share to China. Both maintain representations in several foreign capitals, including Beijing. Historically, Greenland and the Faroes have expressed similar preferences for autonomy from Denmark. Both chose not to join the European Union, mainly to protect their fishing rights. In both places, China has used geoeconomic strategies to seek access and influence, and the United States has sought to disrupt China's efforts by offering defense cooperation agreements and open-ended pledges to expand cooperation and economic and diplomatic links. As in Greenland, Faroese politicians across the political spectrum express awareness that the country is rising in

⁵⁷ The extent of the Faroes' dependence on Danish subsidies varies by year, largely due to fluctuations in oil prices.

geopolitical importance, and that this fact is fundamentally connected to climate change and the resulting increase of traffic and commerce in the Arctic.

Yet Greenland and the Faroes have responded very differently to a similar situation and assessment. Greenland has sought to provoke the United States and Denmark by exploiting its value in climate geopolitics and pursuing a relationship with China. By contrast, Faroe Islands have tried to *avoid* becoming a site of superpower competition and leaned towards their traditional sources of shelter: Denmark and the United States.

My theory of climate geopolitics offers a way to explain this surprising policy divergence: that the long-term balance of these risks and opportunities is ambiguous, so Greenland and the Faroes perceive them differently due to differences in domestic institutions and discourses. Indeed, the Faroe Islands' policy choices and the statements of its senior politicians suggests that the government perceives less opportunity or more risk from climate geopolitics than Greenland does. There are several possible explanations for this. On the opportunity side of the ledger, the Faroes may be less committed to independence than Greenland. They may perceive that they already have the infrastructure to accommodate more trade and tourism as climate change reshapes the region. The Faroes may also believe, because they lack Greenland's large mineral resources, that they cannot successfully pull off a bargaining strategy. On the risk side of the ledger, the Faroes might perceive greater potential economic or security downside from being caught in the middle of a superpower game. Either way, classical geopolitics alone would struggle to explain the divergence between Greenland and the Faroe Islands' diplomatic approach to the superpowers.

Comparing the Faroes and Greenland suggests two hypotheses about why and how climate geopolitics can manifest in location-specific forms. First, SNIJs that desire

independence and need external support to adapt effectively to climate change are more likely to behave like Greenland and use climate geopolitics to bargain with the superpowers for attention and resources. Conversely, SNIJs that are satisfied to stay connected to the metropole and do not perceive a pressing need for external support to adapt will shy away from climate geopolitics and seek shelter like the Faroes.

As in Greenland, China's commercial engagement with the Faroe Islands grew significantly in the 2010s. One of the first major bilateral deals took effect in 2015, when Faroese Telecom, the country's largest telecom operator, signed a contract with Huawei to build and operate a 4G network. This was not controversial; at the time, Huawei 4G systems even had licenses in the United States. Thanks to Huawei's systems, the Faroes by 2016 enjoyed the world's second-fastest mobile broadband system.⁵⁸ This received coverage in the international press and became a source of pride. "The Faroese are traditionally seen as humble folk, but in this I'm being very un-Faroese. I want us to be number one in the world," Faroese Telecom CEO Jan Ziskasen boasted to *Politico* (Duxbury 2019). By summer 2019, Huawei and Faroese Telecom (Føroya Tele) were finalizing a deal to cooperate on a new 5G network.

Just as it had done in Greenland over the Kalaallit Airports, the Trump administration intervened to pressure the Faroes to reject Huawei. U.S. Ambassador to Denmark Carla Sands, who played a leading role in the Greenland case, had already visited the Faroes far more frequently than her predecessors (Poulsen 2020). On November 29, she published a blistering editorial in Faroese in the local newspaper *Sosialurin*, stating that Huawei is "the same company behind the technology that China uses in Xinjiang province to oppress Uighur

⁵⁸ Mobile download speeds averaged an extraordinary 73 megabytes per second in nearly the entire land area of the country and 120 kilometers out to sea.

Muslims, and which is used by other authoritarian regimes in Iran, Venezuela and North Korea” (Ritzau 2019). Sands warned that any country that accepted Huawei into its 5G systems would risk “dangerous consequences . . . If you exercise your right to free speech, will your Chinese server then work, or will the Chinese government be able to use its rights under their laws to shut down service?” This was a starker expression of the anti-Huawei argument than other Trump administration officials had made to European allies and partners. It caught the Faroese government by surprise.

Faroese commentators made clear that the country had little to gain from getting involved in this superpower dispute. Faroese Telecom hoped to continue its partnership with Huawei purely for commercial reasons. “It would be horrible if the allegations [of spying] were true,” said Ziskasen. “We would be set back by years” if the company had to rip out its Huawei hardware and replace it with European-made components. “I have invested 120 million [Danish kroner] in this, so I really need some solid proof, and up to now, I have not seen any.” The Faroese government seemed to agree that the benefits of keeping Huawei were not worth the risks and costs of rejecting it. It allowed Faroese Telecom to continue negotiations with the Chinese. The Faroese preference was clearly to keep doing business with both sides, resisting the narrative that 5G related to geopolitical or security issues. This was the opposite of what Greenland had done, playing up its geopolitical importance under climate change in a deliberate bid to attract investments from both sides.

Both superpowers covertly pressured the Faroes to intervene in the Huawei deal. On November 11, Chinese ambassador to Denmark met with Faroese Foreign Minister Jenis av Rana, Prime Minister Bárður Nielsen, and Finance Minister Jørgen Niclasen. Faroese Trade Minister Helgi Abrahamsen was later caught on a hot mic discussing his understanding of the

meeting with a subordinate. According to a transcript obtained by a Danish newspaper, Feng told the Faroese prime minister that China would rule out any free trade deal unless Faroese Telecom gave Huawei the 5G contract (Winther and Kruse 2019). China had limited means to retaliate, since it represented only about 2% of Faroese exports by value. Yet the threat to link Huawei to trade was significant, since China is the world's largest and fastest-growing market for salmon, the Faroe Island's main export. Abrahamsen was also recorded mic saying that Denmark had advised him to stop the deal. This presumably reflected pressure from the United States, given Sands' comments.

Faroese Prime Minister Bárður Nielsen tried to keep the Faroe Islands out of the superpower rivalry. He told Feng that the Faroese government would not interfere with Faroese Telecom's decision. When the clip of Abrahamsen's comments admitting to the Chinese coercion leaked to the press, the Faroese government won an injunction to stop the clip from being aired on television, claiming that "publication of this information might damage the relationship between the Danish Commonwealth and China" (Winther and Kruse 2019). "It's a conversation between two countries," Nielsen later clarified. "It's not something the public needs to know about." Nielsen also refused to confirm or deny whether Feng had threatened to condition a future trade deal on the Huawei decision. "The only thing I have to say about it is that I have not felt threatened or pressured by the Chinese authorities," he said.

Weeks later, the transcript was published, revealing that Nielsen had not been telling the truth. China had indeed been pressuring him—and that Nielsen feared revealing this to the public might provoke even harsher Chinese retaliation. The Faroese government was so concerned about the risk of Chinese retaliation that it put the decision about 5G on hold indefinitely. Two years later, after other European countries were rolling out 5G, Faroese

Telecom had *still* not reached a decision about which partner it planned to use.⁵⁹ China's denials that it had threatened to retaliate against the Faroes strained credibility. Asked to comment, Chinese Foreign Ministry spokesperson Hua Chunying first dismissed the report as a "factual error" because "China and the Faroe Islands haven't reached a free trade agreement, [so] how could the agreement be dropped?" This was an unpersuasive evasion; Abrahamsen had said that Feng threatened to rule out any *future* trade deals. In follow-up questioning, Hua seemed to backtrack, noting that "China has the responsibility to resolutely safeguard the legitimate rights and interests of Chinese people and companies" (Global Times 2019). This essentially upheld that Feng admitted that he had threatened Nielsen, after all.

After this incident, as in Greenland, the United States government actively intervened to pull the Faroe Islands back into its sphere of influence. In July 2020, Secretary of State Pompeo met Faroese Foreign Minister Jenis av Rana in Copenhagen. It was the first time a Faroese foreign minister had ever met with a U.S. Secretary of State. Pompeo pledged to open a "formal dialogue" to "increase economic engagement" and asked av Rana how soon the Faroe Islands could open a diplomatic representation in Washington (Joensen 2020). Av Rana was receptive. "We have many of the same interests," he said, "not least security in the world we live in." (However, av Rana notably did not say that the two countries had *all* the same interests, possibly hinting that he found Pompeo's stance on China too provocative.) Four months later, U.S. Deputy Assistant Secretary of State for European and Eurasian Affairs Michael J. Murphy visited the Faroes to sign a "first...of its kind" Partnership

⁵⁹ In another striking difference from Greenland, neither Faroese Telecom nor the several Faroese politicians I contacted responded to my interview requests.

Declaration to provide a “framework...for increased bilateral cooperation” (Government of the Faroe Islands 2020).

The United States continued its outreach to the Faroe Islands under the Biden administration. In February 2021, again under pressure from the United States, Danish political parties from both the left and right agreed that to invest 1.5 billion kroner (\$250 million) in surveillance and communications programs in the Arctic, including DKK 390 million (\$59 million) to build a radar station in the Faroes. These measures were intended not only to secure NATO’s military presence in the Arctic as tensions rise there, but also to bind the Faroes closer to the United States politically and economically, and to provide a credible alternative to China’s geoeconomic approaches.



Figure 8.2 – Faroe Islands Foreign Minister Jenis av Rana (right) and U.S. Deputy Assistant Secretary of State for European and Eurasian Affairs Michael J. Murphy, sign Partnership Agreement in Tórshavn⁶⁰

⁶⁰ Government of the Faroe Islands, “Faroe Islands and USA Sign Partnership Declaration,” November 12, 2020.

Faroese politicians saw these U.S. gestures as proof that their country was rising in geostrategic value. As Foreign Minister Jenis av Rana told a journalist in December 2020, “We have often been told that we have been insignificant in recent years after our geographical location lost importance when tensions in the region disappeared. We have had problems [in the past] reaching out to other nations, and therefore the current situation is welcomed . . . Some nations have natural resources, but our location is a resource for us” (Poulsen 2020).

These comments almost exactly mirrored Aleqa Hammond’s comments, reported in Chapter 6, that “Greenland has been knocking on many doors, in many countries, for many years, to try and to get influence and talk about Arctic issues. All those doors have been closed.” Sjúrdur Skaale, a Social Democrat who represented the Faroes in the Folketing, agreed that the superpowers’ motivations were primarily geopolitical. “Commercially, the Faroe Islands cannot be very important to Huawei or anybody else,” he told the *New York Times*. “The fact that the Chinese and American embassies are fighting over this as hard they are [means that] there is something else on the table. It is about something else than purely business” (Satarino 2019). While Faroese politicians do not tend to link climate change to geopolitics explicitly, their comments make clear that they see climate change and the Arctic’s changing geography as key underlying drivers of their newfound geopolitical relevance. This discourse bears striking similarities to the Greenlandic discourse discussed in Chapter 6.

Differences in the Greenlandic and Faroese independence movements offer one explanation for the two SNIJs’ divergent behavior. Both have longstanding independence movements. However, the independence issue has receded in the Faroes over the past

decade.⁶¹ In 2011, the Faroes tried to adopt their own constitution, provoking a crisis within the Danish Realm. Danish Prime Minister Lars Løkke Rasmussen took a hard line, demanding that the Faroese choose between secession—immediately forfeiting the block grant—or scrapping their constitution. The Faroes folded, and thereafter the independence issue receded (Sølvárá 2013). The Faroes also have no equivalent of Greenland’s 2008 independence referendum, which provides the mandate for all Greenlandic governments to work toward eventual independence.

Another explanation relates to differences in geography and infrastructure. While Greenland’s infrastructure is highly underdeveloped, the Faroes boast that they have “highly advanced domestic infrastructure in transportation and digital networks” with paved roads connecting all inhabited villages and subsea tunnels, bridges, ferries, and helicopter services connecting all populated islands (Government of the Faroe Islands undated). There Faroes therefore do not need most of the traditional infrastructure investments that China typically finances and builds. This is connected to geography. The Faroes are far smaller than Greenland, with no ice sheet. Their waters are typically navigable year-round, whereas much of Greenland is functionally shut off by sea ice for much of the winter. As a result, the Faroes are likely to experience less dramatic geophysical impacts from climate change than Greenland and need less external investment in their critical infrastructure.

8.6 Iceland

⁶¹ Four of the seven main political parties in the Faroe Islands—People’s Party, Republic Party, Progress Party, and Self-Government Party—nominally support independence, but with different degrees of strength and urgency. In the August 2019 election, the staunchly unionist Bárður á Steig Nielsen of the Union Party was elected prime minister.

Iceland, like the Faroe Islands, shares several notable characteristics with Greenland. All three are small U.S.-aligned island polities located in the North Atlantic, astride the Arctic Circle.⁶² Iceland was previously a Danish colony, having achieved sovereignty after a peaceful separation in 1918. Iceland has no army or defense budget and does not directly host NATO forces, so it depends on the United States and NATO for security even more than the Danish Realm (Stoltenberg 2019). Like its neighbors Greenland and the Faroe Islands, Iceland's geographic position makes it strategically important for the security of the North Atlantic and the melting Arctic. All three are economically dependent on fishing and tourism and see China as a large potential market. Icelandic voters and political leaders also disagree about the balance of risks and opportunities that climate change poses.

Most importantly, Iceland has also received mounting attention from the superpowers. China has tried various strategies to establish a foothold in the country. Iceland has resisted most of these Chinese advances, particularly China's attempts to buy land and invest in critical infrastructure; in 2020, the two countries described their bilateral investment relationship as "small in scale and slow in growth" (Minutes of the 4th China-Iceland FTA). Yet Iceland has not rebuffed China entirely. Before the COVID-19 pandemic, China had become one of the leading sources of tourist revenue for Iceland, with annual visits up 430% between 2014 and 2019. Among European countries, Iceland has been among the most willing to establish a broad financial relationship with China by entering swap agreements with the People's Bank of China and considering the issuance of RMB-denominated panda bonds (Minutes of the 4th China-Iceland FTA). It stands alongside Hungary as one of only two NATO members to accept Huawei into its 5G infrastructure (Sacks 2021). Iceland has

⁶² Iceland's population is 356,000.

also allowed the Polar Research Institute of China (中国极地研究中心), a division of the Ministry of Natural Resources, to build, finance, and operate a “China Iceland Arctic Research Observatory” in the north of the country on a long-term lease (EU Interact 2017; Doshi, Dale-Huang, and Zhang 2021).

Iceland’s first significant engagement with China began after the 2008 financial crisis. Three of Iceland’s biggest commercial banks defaulted, plunging the economy into depression. Iceland received bailout funds from the International Monetary Fund, the United Kingdom, Germany, the Netherlands and Russia, and signed a currency swap agreement with the People’s Bank of China (Seðlabanki Íslands 2016). In 2015, Iceland withdrew its application to join the European Union and signed a free trade agreement with China, becoming the first European country to do so. The following year, Iceland renewed its currency swap agreement with China. Iceland’s transportation and logistics infrastructure is well developed, so its primary commercial interest in China lies in trade and tourism.

As Chapter 4 demonstrated, China sought to capitalize on this budding partnership, identifying Iceland as one of its most promising potential partners in the Arctic region. In 2010, the Chinese businessman Huang Nubo made his first business trip to Iceland and pledged \$1 million to establish and finance a “China-Iceland Cultural Fund.” This new organization was be led by his former roommate, then the husband of the Icelandic foreign minister (Eudes 2013).⁶³ The following year, Huang returned to Iceland and began to make inquiries about whether his firm, Zhongkun Group, could purchase over 100 square miles of wilderness in the north of Iceland from local governments and private owners, reportedly for

⁶³ Yves Eudes, “Iceland: Money from China,” *Le Monde*, August 7, 2013.

over \$100 million. This was a surprising request, as temperature and wind conditions in the vicinity were highly unfavorable to golf (Doshi, Dale-Huang, and Zhang 2021).

Despite the obvious possibility that Huang was acting at the behest of the Chinese state, local Icelandic politicians were excited about the deal. “He played completely by the book,” recalled Halldór Johansson, an Icelandic consultant who served as Huang’s consigliere and spokesman during the affair (interview with Halldór Johansson). “I know because I helped him...He had a meeting with the president, the foreign minister, the minister of finance, the minister of environment, and local governments. Everybody welcomed his proposal” except for the Green party. At that time, economic cooperation with China was not a controversial issue in Iceland.

When China’s *Xuelong* icebreaker made its maiden voyage to the Arctic in 2012, it stopped at Akureyri in northern Iceland. “This was not a strategic plan for China, but it was a strategic plan for us,” recalled Johansson. “All the representatives from local governments came on board to ship because they saw the opportunity.” Johansson considered the possibility that Huang was on behalf of the Chinese government, but he did not see why this should be concerning. “The Chinese have been snapping up land all over the world,” he told me. “I don’t know what their plans are, but they are strategically planning for future decades.”

After news of Huang’s offer broke, Iceland became a focus of international attention and the domestic politics of the deal became more complicated. “Social media went haywire,” Johansson recalled, and “the politicians all did a one-eighty.” The majority Social Democratic Party and the Industry Ministry supported a waiver to allow Huang’s deal. But the Green party Interior Minister, Ogmundur Jonasson, remained opposed to letting foreign

investors buy land on principle. “Ownership has to remain in the hands of the community, otherwise we could be swallowed up,” he said. “There are only 350,000 of us in this country” (Eudes 2013). The project became tied up in committee wrangling in the Icelandic parliament.

Meanwhile, influential residents of the local Grímsstadir region supported Huang’s offer, believing that it would revitalize the local economy. They sought ways to bypass the Green Party’s objections by organizing seven local townships to form a private company and purchase the land with a loan from the Chinese—and then lease the property to Huang (Higgins 2013). This too failed, and Huang effectively scuttled the possibility of further cooperation by telling journalists that Iceland resembled an “ill” and “weak” man frightened by the “young and robust” Chinese (Wall Street Journal 2011).

Chinese analysts continued to express optimism that Iceland could be a potential partner. Zhao Ningning and Ou Kaifei argued that Iceland wanted China and other foreign countries to provide “checks and balances” against aggression from the U.S., Canada, and Russia (Zhao and Ou 2014, Deng 2015). They argued that there remained “strong consensus in Iceland’s political elite...that China can provide important manpower and intellectual support...to respond to the risks of Arctic environmental changes,” a euphemism for climate adaptation. To this end, they recommended that China keep trying to invest in Iceland and strengthen its “diplomatic public relations” with Icelandic people through “clever public opinion propaganda” [巧妙的舆论宣传].

Two years later, Xiao Yang identified Iceland alongside Greenland as the two Arctic polities most likely to align with China’s interests, given the imbalance between their geostrategic location and their relative lack of influence within Europe and NATO (Xiao

2016). In 2019 Xu Qingchao called for studying the lessons of China's failures in Iceland, since Huang Nubo's mishandling of public opinion and political relationships had done lasting damage to China's ability to establish a foothold in the country.

In line with these recommendations, China continued to court Iceland actively. It opened a new four-floor embassy, by far the largest in the country, with enough office space for several dozen, if not hundreds of personnel (Eudes 2013). In May 2019 the Chinese ambassador, Jin Zhijiang, who speaks fluent Icelandic, published an editorial in the Iceland newspaper *Morgunblaðið*, claiming that "The Icelandic government remains open to the signing of MOU on cooperation under the BRI with China," and that "people from [the Icelandic] business circle and other fields have already shown great interest in joining BRI" (Jin 2019). Jin named several "opportunities" that could accrue to Iceland through the initiative: "China and Iceland can work together to build a connectivity network of land, maritime, air and cyberspace featuring tourism infrastructure, Polar Silk Road shipping routes, direct flight and 5G communication network," he wrote. In January 2020 Xinhua reported that "Iceland holds an open attitude towards the Belt and Road Initiative and stands ready to make joint contributions to facilitating connectivity in Eurasia with the Chinese side" (Xinhua 2020). In regular meetings to review the bilateral free trade agreement, Chinese negotiators continually pressed Iceland to "unnecessary restrictions" on investment and hinted that it could significantly open its market to Icelandic fisheries and geothermal energy products (Minutes of the 4th China-Iceland FTA).

However, there is little evidence that the "clever public opinion propaganda" they recommended China disseminate in Iceland has had the intended effect. The Icelandic side has consistently expressed interests in participating in deepening cooperation in trade,

tourism, and scientific research, but it has consistently rebuffed China's requests to ease barriers to investment. After the Huang Nubo affair, this seems to represent a hard limit for Iceland's engagement with China.

The United States has responded by increasing the frequency of high-level visits to Iceland, promising more comprehensive cooperation. In 2019, U.S. Secretary of State Mike Pompeo and Vice-President Mike Pence both visited Reykjavik. At a press gaggle, Pence said that "there is no question that China is becoming more active in the Arctic region, both economically and strategically . . . So now is the time for us to strengthen our alliance, to strengthen our cooperation for security, and rejecting the Belt and Road Initiative, as Iceland did recently" (Pence 2019). This was no slip of the tongue, as Pence then repeated that "the United States is grateful for the stand Iceland took rejecting China's Belt and Road financial investment in Iceland...For Iceland to take that stand was an important step and one that we greatly welcome." This was a passive-aggressive diplomatic slight, as Iceland had at no point rejected China's offer to join the Belt and Road.

Yet Iceland has also quietly resisted Washington's efforts to get it to pick sides in the Arctic superpower rivalry. After Pence made his comments about the Belt and Road, the Icelandic foreign minister clarified that Pence had misspoken and that the country was still considering China's offer (Böðvarsdóttir and Ólafsdóttir 2019). Two years later, Iceland had yet to render a decision about the Belt and Road, indicating that it wishes to avoid antagonizing Beijing.

Icelandic politicians do not often speak explicitly about climate geopolitics, but some prominent politicians have spoken openly about climate change as an economic and geopolitical opportunity. Iceland's 2007 Climate Change Strategy noted that "it is necessary

to examine both opportunities and threats accompanying the probable increase in ship traffic and the transport of goods, oil, and gas in the Arctic region” (Iceland Ministry for the Environment 2007). Sigmundur Davíð Gunnlaugsson, who served as prime minister from 2013 to 2016, argued in one interview that climate change is “obviously a negative on the whole, but it does provide an opportunity to respond to the development and respond to it as best as possible” (Breytingarnar skapi 2014). In that context, climate change could create “a lot of opportunities” for Iceland “in terms of shipping routes, oil, gas and mineral development, not to mention food production.” Gunnlaugsson added that the negative effects of climate change on the rest of the world might also have indirect benefits for Iceland, for example when other countries face water and land shortages, and rising prices of food and energy. “There great opportunities for Iceland there and we are mapping it out,” he said. As Prime Minister, Gunnlaugsson pushed successfully for a large port facility and adjacent export processing zone at Finnaþjörður, in his constituency on the north coast of Iceland (Kokorsch 2020). The site is located in a sparsely populated region, but Bremenport, the project’s German partner, predicts that “the change in climate will result in an economic development [sic] in this region”—that is, when the Northern Sea Route opens (Humpert 2019). After years of delay, the project seems likely to go ahead.

Other Icelandic politicians from across the political spectrum have criticized Gunnlaugsson’s comments on climate change and committed to making Iceland a global leader in decarbonization.⁶⁴ Katrín Jakobsdóttir, who has served as prime minister since

⁶⁴ Gunnlaugsson resigned after the Panama Papers revealed his undeclared overseas financial holdings, but the new Center Party he founded won 10% of the vote and entered parliament in a subsequent election. Since falling from power, Gunnlaugsson has rebranded himself as a politically incorrect populist and formed a new party that spoke more forcefully about the trade-offs Iceland supposedly faces between mitigation and adaptation. In one essay, Gunnlaugsson argued that Iceland should pursue low-carbon development, but that his colleagues were practicing “hypocrisy” by endorsing unrealistic decarbonization plans proposed by the Swedish

2017, is a former environmental activist who has called the climate crisis an “emergency situation” and pledged to achieve net-zero emissions by 2040 (Hafstað 2020). Jakobsdóttir has also eschewed Gunnlaugsson’s anti-China rhetoric and encouraged the expansion of China-Iceland cooperation on geothermal power and other forms of scientific research (Embassy of the People’s Republic of China 2019). Notably, Jakobsdóttir’s government has replaced the climate strategy that states that Arctic sea ice melt could create opportunities, noting instead that the national adaptation plan is pending scientific review (Iceland Meteorological Office 2018).

Jakobsdóttir has also resisted U.S. pressure to take sides in a mounting U.S.–China competition over the Arctic. In July 2020, after U.S. Secretary of State called Nordic states “naïve” about China’s intentions for the Arctic, Jakobsdóttir obliquely criticized Pompeo’s inflammatory comments. “We have obviously seen a rise in tensions between the US and China,” she noted. “We also have seen a very growing interest of both U.S. and the Chinese [sic] in the Arctic.” However, rather than stating that Iceland would side with its NATO ally, Jakobsdóttir said her priority was to keep the Arctic “a very low-tension area” and to “avoi[d] military activities around the Arctic” (Agence-France Presse 2020).

In conclusion, Iceland has approached climate geopolitics similarly to the Faroe Islands, welcoming the superpowers’ interest and attention under but repeatedly declining to play a risky bargaining game that could gamble with national sovereignty. Iceland has tried with limited success to reduce geopolitical tension in the region and redirect strategic challenges into economic opportunities. Johansson, the consultant who advised Huang Nubo,

activist Greta Thunberg. If Western countries were to follow Thunberg’s guidance, he argued, they would create an economic crisis, promote “outrageous contamination” in China by demanding greater production of wind turbines and other symbols of green “image politics,” and “give China and other developing countries a huge advantage” in industrial competition.

frames this as a hedging strategy rather than a bargaining strategy. “We are such a small country that we need to have many friends,” he says. “It’s very important that we don’t have all the eggs in the same basket. I think the biggest mistake that we could make would be to pick sides” between China and the United States if their relations continue to deteriorate.

Together, the Iceland and Faroe Islands cases illustrate that climate geopolitics has become a universal theme among small polities in the Arctic, but they also show that not all small polities in Greenland’s position need adopt opportunistic and risk-tolerant strategies. Whereas Greenland welcomed Chinese participation in a range of strategic investments, from ports to airports to mines, actively inviting superpower competition over access and influence, Iceland has held China at an arm’s length. It has continued to seek shelter from its traditional sources of security—the United States and NATO—while asserting autonomy from the United States’ increasingly confrontational policy toward China.

The best explanation for Iceland and Greenland’s divergent behavior is that Iceland thinks it has the resources to manage the process of adaptation to climate change with its existing resources and is therefore less willing to tolerate geopolitical risk. Comparing the Finnafjörður port to Greenland’s Kalaallit Airports modernization project highlights the difference. Iceland did not need the port to remain a highly prosperous economy, yet it could still rely on private financing. Greenland, by contrast, badly needed new airports, but it still had to seek concessionary financing from a sovereign lender to make the project viable.

8.7 Kiribati

Outside the Arctic, most small states perceive climate change and climate geopolitics as far more of a risk than an opportunity. No country exemplifies this phenomenon more

clearly than Kiribati, the poorest and lowest-lying of the Pacific island nations. Kiribati's population of 119,000 lives on 33 islands that are altogether about a quarter of the size of Rhode Island, dispersed over a vast expanse of ocean more than twice the size of Alaska. The country's average elevation is less than six feet above sea level. As the last president, Anote Tong, told the *New Yorker* in 2014, "According to our projection, within this century the water will be higher than the highest point in our lands." In the face of this inevitability, Tong said, "for our people to survive, then they will have to migrate. Either we can wait for the time when we have to move people *en masse* or we can prepare them—beginning from now" (Morais 2014). As Chinese scholar Kang Xiao characterized it that same year, Kiribati rightly sees sea level rise as a "survival problem" (Kang 2014).

In other words, for Kiribati, adaptation is the only option. In Paris, Tong helped lead a "high-ambition coalition" of climate-vulnerable countries that wanted developed countries to make more aggressive emissions cuts. Yet the country contributes only 0.0002% of global carbon emissions. "As such," the country's national climate change strategy states, understatedly, "Kiribati is in no position to make dramatic changes to the global total" (Government of Kiribati 2018, 15). The country must therefore treat climate change, like the U.S.-China rivalry, as a long-term exogenous trend.

Kiribati lacks the human capital, equipment, engineering expertise, and financing to adapt effectively to climate change by itself (International Monetary Fund 2019). Tong developed a plan to dredge sand and gravel from the ocean floor and use it to shore up the coast of the main island, Tarawa. He pitched the proposal to officials from the United Arab Emirates, New Zealand and South Korea. None were interested. In 2014, believing that he had exhausted his options, Tong used the country's sovereign wealth fund to buy an eight-

square-mile parcel of land in Fiji, over a thousand miles away. He described the purchase to the public as an insurance policy in case the seas and weather became so inhospitable that the entire population had to relocate. China later offered to help develop this land.

Tong's successor Taneti Maamau, who took power in 2016, took a different position. Maamau insists that the country will find a way to adapt and remain on the archipelago. "My government has decided to put aside the misleading and pessimistic scenario of a sinking, deserted nation," he told a climate summit in Germany soon after taking power. Faith in God—"the Mighty Hand that made our islands"—would drive the people of Kiribati to adapt to climate change, with the help and support of international partners (Government of Kiribati 2017). "Our people's desire [is] to stay in our motherland," Maamau says. To meet that goal, Kiribati would have to think big. In some places, "hard" infrastructure like seawalls would be needed. Where hard infrastructure is too expensive or technically difficult, the country would dredge the coasts. It would plant mangroves and traditional seawalls made of branches, palm fronds, and coconut fiber. All infrastructure in the country would be "climate proofed."

Maamau's 20-year plan set the goal of turning Kiribati into "the Dubai or Singapore of the Pacific" (Maamau 2018). He proposed replacing the causeways connecting Kiribati's main islands with bridges, building an elevated highway circling the main island, and dredging the harbor of the capital—not just to shore up exposed coastline, but also to reclaim land for agricultural use. He called for building "five-star eco-resorts" to lure tourists from Hawaii. This plan is technically feasible, but requires raising the main island by a meter or more and undertaking a "staged relocation and replacement" of almost all critical infrastructure at a time when the country has other dire infrastructure needs, from

transportation to internet connectivity (Swoer and Weikle 2020). Maamau’s 20-year adaptation plan freely admits that “the finance required to allow our people and government to implement this policy is far beyond our means.” To fund the investment, it claims, Kiribati needs “improved access to financing sources” (Government of Kiribati 2018, 2).

Maamau’s plan has been to solicit Chinese investment. In 2019, he abruptly broke off diplomatic relations with Taiwan and restored relations with the People’s Republic of China. In exchange, China allegedly promised him several commercial airliners and ferry boats. Maamau was invited to Beijing, where he was received in state at the Great Hall of the People (Teng 2019). There he signed documents joining One Belt One Road, which China promised to “integrate” with his 20-year development plan, including climate adaptation infrastructure (CGTN 2020). Upon returning home, Maamau was comfortably re-elected. The Chinese embassy worked to swing the election in Maamau’s way. It donated \$4.2 million to “livelihood projects” in Kiribati in the weeks leading up to the vote (Barrett and Blanchard 2020). The money went to perks including a new unemployment insurance benefit, water tanks, toilets, and sports equipment.

Thereafter, China showed interest in financing a range of infrastructure projects in Kiribati. In December 2020, the controversial and U.S.-sanctioned undersea cable operator Huawei Marine submitted a bid on a proposed \$72.6 million undersea project to provide fiber-optic services to Nauru, the Federated States of Micronesia (FSM), and Kiribati (Barrett 2020).⁶⁵ The offer reportedly undercut its competitors’ —French-headquartered Alcatel

⁶⁵ Nauru signed up to the Coral Sea Cable system connecting Australia to Papua New Guinea and the Solomon Islands. This network was laid by Sydney-headquartered Vocus Group in 2019 in the hope of shutting Huawei out of these strategic markets.

Submarine Networks and Japan-headquartered NEC—by more than 20% (Barrett 2021).⁶⁶ In response, the U.S. State Department warned all three governments against the deal, according to documents reviewed by Reuters. American pressure paid off: in June 2021, Nauru blocked the cable to Kiribati when it withdrew from the project and signed onto an Australian-funded alternative.

China has also explored the possibility of building a bridge and airport on Canton, one of Kiribati’s most remote and sparsely populated islands. In 2020, Maamau pledged not to allow China to turn the site into a military base (Pala 2020). This denial validated rumors that a Chinese dual-use facility on the island was in fact under discussion. In May 2021, Reuters confirmed that Maamau was negotiating with China on a feasibility study to explore upgrading an airstrip and bridge on Canton. Maamau’s office responded in a statement that “the project is purely initiated for civilian use only” and that the goal is to turn the island into a “high-end niche tourism destination” (Barrett 2021). This claim strains credibility; more likely, China hopes eventually to use the Canton Island facility to house Y-8 patrol aircraft.⁶⁷

In interviews with foreign media, Maamau insisted that he would not allow the Chinese military to operate in Kiribati, or that he would take out loans from any foreign country. However, it was unclear how Maamau intended to pay for these ambitious plans—or to persuade the Chinese to invest—without loans or collateral. Pinto Katia, an opposition

⁶⁶ In 2020, under sanctions pressure, Huawei Technologies Co. Ltd. sold a controlling stake in its subsidiary Huawei Marine to the Shanghai-listed Hengtong Optic-Electric Co Ltd, but it remains a major shareholder.

⁶⁷ Open-source satellite imagery suggests that an air base on Canton Island is physically viable, though China would need to undertake significant construction works to harden the facility against a potential U.S. airstrike. The airstrip has one runway of approximately 2,100-plus meters. If needed, it could be extended by another 200–400 meters, enough to launch any aircraft the PLA currently fields, including H-6s, Y-20s, Y-8s, KJ-500AEWs and fighter aircraft. Building out extra ramp and apron space, a loading facility, and an air defense system such as a S-300/400 would be a more complex operation, requiring significant dredging of the island’s shallow coastal waters. Thus, the most likely Chinese use-case for the Canton Island facility would be to house patrol aircraft exclusively (Y-8s). I am grateful to Harry Halem for his help with this analysis.

member of parliament, claimed that Maamau had promised voters that China would pay for everything. And, indeed, if Maamau's promised projects are to be built, Kantia argues that "there is no other option but to seek financial assistance from China."⁶⁸

The United States is deeply concerned about China's outreach in Kiribati and other climate-exposed small states in the region, such as the Republic of the Marshall Islands (RMI) and Federated States of Micronesia (FSM). The U.S. government began to show this interest under the Trump administration, which created a directorship at the National Security Council for Australia, New Zealand, and the Pacific Islands, the first such post in the institution's history. The first person to hold the position, Alex Gray, has called for the United States to offer Kiribati a Compact of Free Association (COFA), similar to the agreements it already has, and is trying to renew, with the RMI and FSM. Under a COFA arrangement, the United States would offer direct financial assistance and some of the advantages of U.S. citizenship to Kiribati residents in return for unlimited and exclusive access to Kiribati's land and waterways for security purposes for a period of several decades (Gray 2021).

U.S. regional allies also appear concerned that China hopes to establish a dual-use military facility on Kiribati. In December 2020, Japan announced that it would open an embassy in Kiribati to monitor China's activities there, particularly the Canton Island project. Toshimitsu Shigemura, a professor of international relations at Waseda University, commented that "there is deep concern in Tokyo that Kiribati, in particular, will suddenly start to receive vast amounts of Chinese money and that will influence the government"

⁶⁸ John Power and Maria Siow, "Kiribati's Pro-China Leader Wins Re-Election in Blow to Taiwan," *South China Morning Post*, June 23, 2020.

(Power and Siow 2020). A week later, U.S. Indo-Pacific coordinator Kurt Campbell told a panel in Washington that the United States had “not done enough to assist the region” and that “if you ask me where are the places where we are most likely to see certain kinds of strategic surprise [from China]—basing or certain kinds of agreements or arrangements—it may well be in the Pacific” (Reuters 2020).

The Kiribati case illustrates that, from the perspective of a small island polity, there is no neat line separating adaptation-specific infrastructure from regular infrastructure as climate change changes the country’s geographic circumstances. Similarly, there is no clear conceptual distinction between preparing for climate change and preparing for the intensification of the U.S.-China rivalry. Without the luxury of hedging or delaying, and without access to private capital or multilateral loans to adapt, Kiribati has to choose between abandoning the archipelago altogether or finding a patron state willing to provide concessionary assistance. Either one affords China the opportunity to swap climate adaptation assistance for political loyalty and possibly dual-use access.

The United States and China both recognize that Kiribati’s lack of capacity to adapt to climate change without external support has put it in a desperate predicament, potentially driving it to realign geopolitically toward a superpower that offers aid and shelter, at the expense of its sovereignty and autonomy. Because the process of adapting Kiribati to climate change entails the need to invest in a wide range of potentially dual-use infrastructure, both superpowers are keen to get involved—and to prevent the other from exploiting Kiribati’s vulnerability to gain geostrategic advantage. Above all, as in Greenland, all three sides recognize that climatological and geographic change are the fundamental premises of this geopolitical game.

8.8 Maldives

The Maldives, another of the most vulnerable countries in the world to climate change, is in a similar position to Kiribati. It consists of an archipelago of twenty-five low-lying coral atolls and 1,190 small islands stretching 860 kilometers on a submarine ridge in the Indian Ocean, about 750 kilometers southwest of India. Approximately 350 of these islands are inhabited or used for human economic activities (Islam 2011). More than 80% of the country's land area lies less than one meter above sea level. The mean ground-level elevation is only 1.5 meters, and the highest natural point is only 5.1 meters. Thus, even a relatively small amount of sea level rise threatens to put the country's critical infrastructure at risk. Unlike in Greenland, the Faroes, and Iceland, the Maldives experiences climate change as a purely negative trend.

The immediate risk is not that rising seas will submerge the Maldives' major population centers. In fact, studies using satellite imaging have shown that finding that coral atolls have not lost land area as sea levels has risen—and may even have increased slightly in size (Duvat 2018). Rather, long before most of the country is underwater, saltwater contamination and storm surges will create social and economic disruption, forcing a choice between emigration and expensive adaptation. Curt Storlazzi, a geologist at the U.S. Geological Survey and lead author of a widely cited 2018 report, argues that the “tipping point” for livability in the Maldives will come when seawater contaminates the underground aquifers serving the atoll islands, so that potable groundwater is no longer available. Storlazzi projects that this point could be reached by mid-century in some of the islands (United States Geological Survey 2018). Li Yuanyuan of the Chinese MEE developed a similar argument in

her 2020 article, noting that food security is another key domain in which climate-exposed small island states will need external support. The Maldives imports almost all of its food supplies except fresh fish and coconut, and floods and storms threaten to break refrigeration systems and damage emergency food reserves.

Successive governments of the Maldives have responded by seeking broad-based financial and geopolitical backing, first from China, and then from the United States. The choice of alignment has been largely connected to domestic transfers of power. The Maldives' fledgling democracy is dominated by two political parties. Between 1978 and 2008, the country was ruled by Maumoon Abdul Gayoom, an Islamic scholar who won five presidential elections unopposed. The first election in the country's history took place in 2008, which Gayoom allowed to be contested under the new constitution. Dissident journalist and activist Mohamed Nasheed of the Maldivian Democratic Party (MDP) won handily. The MDP brands itself as a centrist, environmentalist party that emphasizes human rights and democracy and prefers close ties to India and the United States. Nasheed resigned under pressure from the army and police in 2012 and was later tried and imprisoned. In the 2013 presidential election, conducted under pressure from the military, brought Gayoom's half-brother Abdulla Yameen to power. Yameen was focused on achieving strategic autonomy from India, including by improving relations with China. In 2018, amidst allegations of corruption and human rights abuses, Nasheed's MDP succeeded in demanding a fair election. It won in a landslide and Ibrahim Mohamed Solih became president, pivoting away from China and back toward the United States.

Throughout this period, both parties have agreed that the Maldives needs to attract investment to support its climate adaptation strategy. In 2009 Nasheed held a cabinet meeting

underwater to call attention to the risk (Lang 2009). In 2011 his government adopted the world's first Strategic National Action Plan to integrates disaster risk reduction and climate change adaptation. The plan was intended to integrate planning for housing, construction, health, and other areas (Republic of the Maldives 2011). The Maldives spends around \$10 million annually for coastal protection works but will need to spend over 200% of GDP to shield all of its inhabited islands, according to a 2016 estimate by its environment ministry. "For small states, it is not easy," Foreign Minister Abdulla Shahid told a journalist in January 2020. "By the time the financing is obtained, we may be underwater" (Pal and Ghoshalm 2020).

Because the Maldives is desperate, it does not have the luxury of turning away adaptation funds for geopolitical reasons. Amjad Abdullah, who has run the climate adaptation program at the Ministry of Environment for nearly two decades, wrote in 2015 that climate change "threaten[s] our very survival and the sovereignty of our nation and people...Consequently, the Maldives needs to explore various ways of ensuring that our nation survives and our legacy remains" (Republic of Maldives 2015). Environment Minister Hussain Rasheed Hassan has put a finer point on it, noting that private investors still do not consider most of the Maldives' proposed adaptation projects "bankable," noting that "[w]e have to beg some of these (big) emitters to provide money for us" (Pal and Ghoshalm 2020).



8.3 – China-Maldives (“Sinomale”) Friendship Bridge in 2020, ANBARASAN ETHIRAJAN/BBC⁶⁹

Fortunately, land reclamation in the Maldives is relatively cheap because most of the reef-flats just offshore are very shallow. The cost of reclaiming land in Hulhumalé, an island adjacent to the capital, has fallen as low as US\$30 per square meter, less than the value that can be created by building new housing stock on the reclaimed land. However, this development strategy is economically viable only a few select parts of the country. In the Maldives’ more remote and low-density islands, climate adaptation is unlikely ever to be economically viable (Hinkel et al. 2018). In 2015 the Maldives won an \$80 million

⁶⁹ Anbarasan Ethirajan, “China Debt Dogs Maldives’ ‘Bridge to Prosperity,’ *BBC*, September 17, 2020.

concessional loan for island construction on Hulhumalé from the Saudi Fund for Development, including several small bridges and harbors (Minivan News 2014). Yameen called for increasing Hulhumalé's population in the long term to 220,000—nearly two-thirds of the country's current population—and urged residents of islands with small populations to migrate there (Minivan News 2015).

China actively supported a range of infrastructure investments in the Maldives, including island-building and infrastructure on and around Hulhumalé. In September 2014 Xi Jinping visited the country and announced support for a “China-Maldives friendship bridge” connecting Hulhumalé to the capital, Malé. In June 2015 the two governments signed an agreement on the technical details and the Chinese government pledged to fund the project with between \$100 and \$150 million in grants or concessional loans. Yameen also said he would seek to expand a \$40 million loan from China EXIM bank to develop the international airport, though the project was ultimately funded by the United Arab Emirates. The four-lane, 2.1km bridge ultimately cost \$200 million, funded by a further loan from China. It opened in 2018 (Ethirajan 2020). In June 2015 Yameen declared triumphantly that Sino-Maldives relations had reached an “all-time high” (Naish 2015). In 2018, when Yameen's government faced protests that ultimately led to its collapse, China sailed warships into the Indian Ocean and communicated to India and the United States through informal channels that it may intervene to secure Yameen's position and protect its interests in the country (Miglani and Aneez 2018).

Yameen's government hid debts to China in such opaque financial arrangements that after he fell from power, his successors struggled to calculate the total. By one estimate, the Maldives' debts to China alone totaled 29% of GDP by 2020, making it one of the most

indebted countries to China in the world (Mundy and Hille 2019). Other calculations suggested the figure could be higher than 60% of GDP. When these debts came to light, Chinese Foreign Minister Wang Yi issued a statement claiming that “China’s cooperation with the Maldives aims to promote the well-being of the Maldivian people, without political intentions and without seeking geopolitical interests” (Reuters Staff 2020). Yet China’s actions, taken alongside the observations of a range of scholars and government analysts, suggest that it was in fact pursuing a climate geopolitics strategy.

Following the return of the U.S.-friendly MDP, the Trump administration made an active diplomatic push to pull the Maldives back from dependence on China. In September 2020 U.S. Deputy Assistant Secretary of Defense for South and Southeast Asia Reed Werner met with Maldivian Defense Minister Mariya Didi to sign a framework agreement on defense and security (Department of Defense 2020). Notably, the agreement endorsed the language of a “free and open Indo-Pacific,” the Trump administration’s euphemism for a regional order not dominated by Beijing (O’Brien 2021). The following month, Secretary of State Mike Pompeo visited the Maldives, the highest-level visit by a U.S. government official since 1992. According to the Maldivian read-out of Pompeo’s meeting with Salih, agenda items included “environmental conservation”—a euphemism for climate change—and “trade and investment facilitation” as well as cybersecurity and terrorism (Malsa 2020). The United States also offered over \$4 million in COVID-19 testing equipment and ventilators.

The Biden administration continued these efforts, going further to link U.S. support for the country to climate adaptation. In August 2021 the U.S. Agency for International Development (USAID) announced a \$10.5 million climate adaptation project in the Maldives, worth more than the agency had spent on all programs in the country over the past

decade (USAID 2021). In its 2022 “Indo-Pacific Strategy,” the Biden administration also promised to “work with partners to reduce their vulnerability to the impacts of climate change” (White House 2022, 17), which Maldivian diplomats met with praise. India, an increasingly close security partner of the United States in the region and a maritime rival of China, signed its own to open a naval facility in the Maldives, in exchange for a \$50 million credit line.

In conclusion, the United States, China, and the Maldives are all aware that sea level rise is pushing the Maldives into a desperate situation, forcing it to sacrifice autonomy in exchange for climate adaptation assistance, broadly defined. China actively ramped up its engagement following the rise of the authoritarian Yameen regime, which took out enormous loans to develop infrastructure in Hulhumalé. This decision advanced the country’s climate adaptation strategy—to resettle much of the population on the country’s highest-lying island—but put the country at high risk of economic coercion by Beijing. The United States did not match Chinese investments dollar for dollar, but it collaborated with India to seek regime change in the Maldives and has capitalized on the rise of a more U.S.-friendly government since 2018 to improve ties and promise various other types of patronage.

As in the other cases discussed in this chapter, the Maldives’ practice of climate geopolitics has varied greatly depending on its domestic political situation. As elsewhere, the country’s extreme vulnerability to climate impacts, coupled with its geostrategic location, has drawn intense diplomatic and commercial interest from both superpowers. Successive Maldivian governments have tried to exploit this fact to attract investments and prepare the country for an uncertain future. In both cases, however, the Maldives has entered this

bargaining process from a position of weakness and has had to sacrifice considerable autonomy in exchange for shelter.

8.9 Comparative discussion

Despite the particularities of each of the case studies, a few common themes stand out. The comparative analysis supports the theoretical claim from Chapter 1 that from the perspective of small states, climate geopolitics is an ambiguous, long-term, and exogenous phenomenon. Small states may therefore ignore it for periods of time. They may perceive it through the lens of local issues. However, all four seem aware that the superpowers have rapidly begun to show historically unusual levels of interest. Key politicians in each place seem to understand that this is because the superpowers are beginning to anticipate and plan for future climate change and the inevitability that adaptation will affect their geopolitical rivalry. Where the small states differ is in how they respond: by bargaining, hedging, or picking a side.

Based on these cases, what are the likely necessary conditions for a small state to bargain as Greenland did? I hypothesize that the small state must believe it needs to make major economic and social changes to adapt effectively to climate change, which it can do only with external support. Given this assessment, the small state has two basic choices: bargain aggressively for advantage and autonomy by making the superpowers bid for access, influence, or loyalty, or pick a side and seek shelter from one superpower, calculating that in return the patron will meet the adaptation need.

By contrast, small states that do *not* perceive an urgent need to adapt to climate change, or believe that they can cope with adaptation with domestic resources alone, have

access to a third option. They can temporarily opt out of the practice of climate geopolitics by hedging, seeking marginal concessions from each superpower, and declining to get involved in their competition. This strategy is a luxury: it is the approach most likely to preserve the small state's autonomy, but it also brings vulnerability to retribution and reprisal from the larger powers. As in Greenland, the choice of which strategy to adopt is contingent on domestic political processes and is based largely on domestic discourses about the balance of opportunities and risks. Sub-national stakeholders within small states tend to perceive the risks and opportunities of climate change indirectly, through the lens of immediate and local needs such as economic development. As a result, the countries' climate adaptation strategies are contested and prone to sudden shifts.

8.10 Conclusion

This chapter has argued that the logic of climate geopolitics evident in the Greenland case has cross-regional explanatory power. The first half of the chapter argued that Chinese analysts since 2018 have actively embraced this logic in the context of the global rivalry with the United States. They have extrapolated theories and observations from the Arctic to other regions and recommending that China refocus its climate aid to small island states away from mitigation projects and toward adaptation projects. The United States under the Trump and Biden administrations has pushed back in various ways, including through COVID-19 aid, new multilateral organizations, visits from senior diplomats, financial aid, and greatly increased technical and financial support for climate adaptation. It is plausible that U.S. climate envoy John Kerry was referring to this new dimension of great power competition in September 2021 when he warned his Chinese counterparts that climate change is “not a

geostrategic weapon or tool.” It is also plausible that the 2021 U.S. National Intelligence Assessment was referring euphemistically to this when it wrote the Pacific island region was at the highest risk of “instability” as a result of climate change, and that this would demand greater “resources” from the U.S. federal government (National Intelligence Council 2021).

The second half of the chapter considered four cases in which China and the United States perceived that the impact of climate change on geography might one day affect their rivalry. In the Faroe Islands and Iceland, as in Greenland, this was because geophysical changes in temperature and sea ice coverage would make it easier and cheaper to access the surrounding region. This implies that strategically located islands will become more geopolitically useful and important as the region transforms, which suggests that a prudent superpower should establish political relationships, engage local communities, and pre-position infrastructure in anticipation of this geographic change. In Kiribati and the Maldives, the superpowers adopted similar strategies. Anticipating that the bilateral geopolitical rivalry would likely continue to deteriorate, both sides assessed that small climate-exposed island polities in important maritime regions offered China some of the best opportunities to acquire access and influence, since China could fill these countries’ increasing needs for strategic shelter in general and adaptation aid in particular. These empirical facts, and the pattern of China acting first, precipitating an American response, matches the predictions developed in the first half of the chapter. Thus, superpowers and small states alike appear to be practicing their own forms of climate geopolitics—across regions, across SNIJs and sovereign microstates, and across polities that are likely to gain and lose from climate change.

CHAPTER 9

Conclusion

9.1 Introduction

This dissertation has considered the following research question: why did Greenland become a site of intense and ongoing geopolitical competition in the years following its 2008 independence referendum? The answer, it has argued, is fundamentally not about Greenland, but rather about the changing nature of global superpower competition. Between 2009 and 2021, the governments of United States and China came to believe that climate change is likely to make Greenland an increasingly valuable geopolitical prize: a major producer of critical minerals, a geographic fulcrum for economic and military activity in an important emerging region, and potentially a sovereign state with an independent foreign policy. Drawing on multilingual archival research and elite interviews, the dissertation has traced how China, the United States, and Greenland co-evolved strategies for interpreting and planning for this possibility and operationalized those strategies through negotiations over mega-projects. All three players in this game were motivated by a shared imaginary of what Greenland might become, and how the others might seek to gain advantage as a result.

I call this phenomenon *climate geopolitics*: the expected or potential impact of future climate change on physical and human geography, and its direct and indirect implications for states' power, interest, and strategy. Climate geopolitics is not an entirely novel idea; it is a formalized and simplified articulation of a whole complex of ideas that many policy makers in the United States, China, Greenland, and elsewhere already accept, and a description of practices that they have already adopted. Climate geopolitics also describes the new type of

interstate relations that arises when one or more states adopt this mode of thought and action: when they try to practice classical geopolitics while also hedging for inherent uncertainties of geographic change.

Climate geopolitics is an inchoate phenomenon. It is not named as such in any major country. It is inconsistently documented in authoritative sources. Yet each key country involved in the Greenland case, in its own way, found itself grasping toward climate geopolitics, drawing on its logic in crafting strategy, and inadvertently pushing one another to think more carefully about it. This dissertation therefore has not attempted a comprehensive examination of climate geopolitics. Instead, it has offered a historical analysis of how climate geopolitics emerged, and an exploratory discussion of how it might operate at the level of strategy and on the ground.

The Greenland case is transnationally relevant because climate geopolitics has quietly become a global phenomenon. In recent years, and increasingly prominently since 2018, the United States and China have begun to apply variations of the same strategic logic and operational tactics they developed in Greenland in small island polities elsewhere in the Arctic, as well as the Pacific and Indian Ocean. Greenland therefore appears to be the first truly illustrative case of a broader emerging trend.

This brief concluding chapter summarizes how these findings contribute to the literature on a theoretical and empirical level and sketches out an agenda for future research.

9.2 Theoretical contributions

The dissertation's main theoretical contribution is to the literature on geopolitics. In recent decades, academic IR has largely abandoned classical theories of geopolitics in favor

of critical alternatives, including polar and environmental geopolitics. Critical geopolitics has revealed the plural and contingent nature of geographic truth and de-centered geopolitics from an exclusive focus on great power rivalry. These have been valuable contributions, but they have come at a cost: to divorce the academic understanding of geopolitics from the practical demands of policy making.

As this dissertation has argued repeatedly, practitioners and policy analysts in many countries still use geopolitical concepts to reason through complexity, reach holistic judgments or net assessments, and guide policy making under uncertainty. Their interest in classical geopolitics has increased further as the U.S.-China rivalry has intensified. Yet classical geopolitics in 21st century faces at least one obvious problem: that one of its fundamental assumptions—the fixed, permanent, and predictable nature of geography—no longer holds under climate change. Some scholars and policy makers seem to be vaguely aware of this problem, but none has articulated a solution that is both theoretically coherent and practically useful. My contribution has been to update classical geopolitical theory for the age of climate change by importing insights and methods from critical geopolitics. These include an appreciation that there can be more than one geographic truth, and the insight that discourses, ideologies, and perceptions are deeply relevant to how states practice geopolitics. I have then used this theory to analyze the participants in the superpower game for influence in Greenland, revealing similarities in their strategies and characterizing the general features of their interactions.

Like classical geopolitics, climate geopolitics is two things at once: an analytical toolkit that states and scholars can use to interpret how ambiguous geographic change might affect their interests, and a realm of practice in which states strategize and act to prepare for

those changes and advance those interests. Perceptions and actions interact recursively and are not entirely separable. As states plan for a range of plausible imagined geographic futures, they respond to one another and co-create a new set of facts and possibilities. By my definition, according to the three-part test introduced in Chapter 1, states and individual policy practitioners can participate in climate geopolitics even if they do not name it or understand it exactly as I do. The main point is that climate geopolitics is a practically oriented activity characterized by an awareness of enormous uncertainty about the future possibilities of geography, which depend not only on how the climate is changing, but also on what other states might do in response. As a tool of analysis, I favor a version of climate geopolitics aimed at helping policymakers navigate this uncertainty and conduct effective foreign policy, not paralyzing them with complexity or abstraction.

Climate geopolitics is inherently a descriptive theory, not a predictive one. Chapter 2 illustrated how states can parse the implications of the IPCC's probabilistic climate projections for various geopolitical scenarios. Yet the compounding uncertainty intrinsic to climate modeling means that climate geopolitics can never be a strictly scientific enterprise. It is no coincidence that policy makers have a terrible track record of predicting the future under climate geopolitics. Until 2013, all major Arctic states were optimistic that climate geopolitics would not destabilize the region. After that, Greenlandic policy makers were too confident that they could use climate geopolitics to bargain their way to independence. Chinese analysts were consistently overconfident that climate geopolitics would lead Greenland to realign away from the United States and Denmark. The United States government did not recognize the issue at all until the late Trump administration. With the benefit of hindsight, each of these assumptions were badly misguided. If we are indeed

entering a world where climate geopolitics is becoming a more important feature of state behavior, then analysts may need to rely more on history and area studies to reach sound judgments, and less on abstract theories that boast of false precision.

9.3 Empirical contributions

The dissertation's empirical chapters developed the concept of climate geopolitics while showing how each of the major state-level actors understood and applied it. In the process, it uncovered several empirical findings that inform various scholarly debates across disciplines.

Chapter 4 showed that Chinese analysts were among the first to posit a link between climate change and geopolitics. Around 2012, Chinese analysts at government ministries and leading universities and think tanks began to view Greenland through the lens of climate geopolitics. They recommended a geoeconomic strategy to help Greenland become the “first sovereign state created by climate change” (Xiao 2018). Chinese analysts were open to collaborating with Russia to gain a foothold in the Arctic, but they thought it preferable to find a small Arctic state to serve as a long-term partner and base of operations and believed that Greenland and China would have complementary needs under climate change. Over the course of the 2010s, Chinese analysts grew more confident in this assessment, judging that the United States was falling behind and failing to grasp the structural inevitabilities of climate geopolitics. This ultimately led China to informally offer Greenland debt financing for a hugely ambitious (and financially dubious) airports expansion scheme. China's analysis proved overconfident and contributed to the failure of each of its attempts to gain a foothold in Greenland. Nevertheless, as late as 2021 leading Chinese scholars were still assured that

they had diagnosed the phenomenon correctly, and the climate geopolitics would ultimately accelerate the “multipolarization” of the Arctic and the world at the expense of U.S. influence by pushing small states toward China as they plan for climate adaptation. These findings are directly relevant to scholarship and policy analysis about the strategic motivations of the BRI and China’s climate adaptation strategy more generally. They deserve close interdisciplinary scrutiny.

Chapter 5 traced the U.S. response. As it became clearer that China’s interest in the Arctic was deeply linked to the expectation of future climate change, the United States government had to revise its assessments about the fundamental nature of climate security and the best way to secure U.S. interests in a warming world. Republicans who had previously denied the scientific basis of anthropogenic climate change began to acknowledge that China and Russia were exploiting opportunities created by the Arctic warming trend, and that the United States had a national security imperative to compete. Democrats, meanwhile, grudgingly came to accept that adaptation to climate change is not just an ecological or domestic policy challenge, since it is intrinsically a geopolitical issue as well. Senior military officers and diplomats and the intelligence community agreed with these assessments and helped to guide the creation of a bipartisan consensus. As a result, the U.S. government approach toward Greenland, and toward climate geopolitics more generally, was more consistent across the Trump and Biden administrations than is commonly understood.

Chapter 6 discussed the Greenlandic perspective. It argued that awareness of climate geopolitics is an unspoken but fundamental assumption underlying Greenland’s contemporary independence movement. Greenland’s strategy for participating in climate geopolitics has evolved over time. Yet policy practitioners across Greenland’s major political

parties believe that climate change will transform Greenland's geography and that of its surrounding neighborhood, and that these changes will inevitably draw attention from outside powers and give Greenland leverage to bargain for autonomy and profit—including the resources to adapt its economy and society to climate change. This speaks to a more general point: that climate change does not necessarily represent pure downside for affected small states. Future climate change creates uncertainties and risks for superpowers engaged in global competition with one another, since each fears that the other will exploit the vulnerability of smaller states to gain increments of advantage. Greenland therefore illustrates one example of how an enterprising small state can exploit that uncertainty.

Chapter 7 described how these strategies co-evolved through three major deals in Greenland. Its most interesting empirical finding is that the Chinese state and Chinese enterprises systematically followed the advice of the scholars and commentators discussed in Chapter 4, contrary to the expectation of the BRI literature, which sees Chinese geoeconomic policy as a largely fragmented and ineffective enterprise. Starting in 2012, Chinese firms and policy banks pursued a raft of unprofitable investments in Greenland, with the express goal of acquiring long-term access. Greenland recognized China's interest and provocatively called attention to it, hoping that this would make the United States feel compelled to compete. The United States then entered the fray, collaborating with its partner Denmark to block China from taking over any critical infrastructure in Greenland or lending Greenland large sums that could create a form of debt dependency. By 2021, in response to American diplomatic successes and unrelated realignments in Greenlandic domestic politics, China pulled back. Yet analysts at prominent Chinese universities argued that the superpower competition in Greenland would continue and speculated for the first time that Greenland

might join the BRI. This chapter emphasized how a single state actor starts executing a strategy based upon climate geopolitics can induce multiple rivals and potential partners to adopt their own climate geopolitics strategies. It also illustrated why the process through which climate geopolitics unfolds is highly contingent and context dependent. Throughout the three major deals discussed in the chapter, local officials in Greenland exercised more agency than either superpower expected.

Chapter 8 argued that since the late 2010s, both superpowers have begun to formalize and standardize their climate geopolitics strategies and to deploy tactics that they had developed in Greenland in other small island polities. As in Greenland, it was China that moved first. Analysts at influential Chinese government ministries, universities, and party think tanks argued that China can achieve long-term strategic objectives, including naval basing, by funding adaptation projects in climate-exposed small island polities. In a series of open-source reports, the United States signaled that it recognized China's strategy and would use similar policy tools to offer small island polities an alternative to dependence on China. Iceland, the Faroe Islands, Kiribati, and the Maldives all experienced versions of this U.S.–China competition, though each shaped the results through their own exercise of agency. The chapter concluded that Greenland is transnationally significant because it appears to be the first clear-cut case study of this emerging trend, which is now visible in the Indian Ocean and Pacific as well as the Arctic. While the Greenland case is distinctive in several respects, it also reveals more general dynamics in how small polities exposed to transformative climate impacts bargain with superpowers—when they seek to hedge and preserve their sovereignty, and when they are more willing to trade sovereignty for strategic shelter.

9.4 Directions for future research

The dissertation's most important empirical conclusion is that climate adaptation, the Belt and Road Initiative (BRI), and U.S.-China competition in small polities are fundamentally interlinked topics. Specifically, it has presented evidence that China is executing a covert strategy to exploit climate impacts for political influence across a range of vulnerable countries, through a systematic use of geoeconomic tools. More work is urgently needed to explore the institutions driving this strategy, assess whether it is succeeding, and develop policy recommendations for interested states to respond.

In the first place, more work is needed to improve quality and expand the range of the Chinese sources. While the Chinese sources reviewed in Chapters 4 and 8 are revealing, most are far from authoritative. This is partly because, as this dissertation has argued, China's climate geopolitics strategy appears to be highly sensitive, and is rarely discussed in open-source materials. Yet many Chinese government sources relating to climate adaptation in general remain untapped, particularly the 2012 National Strategy for Climate Adaptation. A new and substantially more detailed National Strategy for Climate Adaptation, authored by the Ministry of Ecology and Environment and extending through 2035, is circulating in the Chinese bureaucracy in draft phase as of May 2022. Scholars with more access to human intelligence in China might try to gather interview data. Even if this is not possible, future work on China's climate policy should focus more attention on climate adaptation in general and pay particular attention to areas where China's domestic adaptation policies have potential transnational spillover effects. These areas might include water management, fisheries, and partnerships climatological data, like the one China has recently formed with Ethiopia.

Another approach may be to replicate the deep-dive approach that this dissertation takes to Greenland in other climate vulnerable polities. For reasons of cost and length, the comparative cases discussed in Chapter 8 were based purely on desk research and inevitably required some simplification. If climate geopolitics is indeed a global phenomenon, but is highly location-specific, then mapping it will require a collaborative effort among area studies scholars. It will not be possible to improve, deepen, or rigorously test the theory of climate geopolitics until a broader range of cases are well understood. Policy makers will want to have these diagnostic facts in hand before they adopt expensive and potentially inflammatory policies to respond to China's actions.

9.5 Final thoughts

Climate change is the great *known unknown* of international politics in the 21st century. Its scientific basis is incontrovertible. The IPCC's models anticipate transformative effects for geography, ecology, and society alike, even if future global carbon emissions fall rapidly. Yet for all the probability distributions, maps, and forecasts, the implications of climate change for the distribution of global power remain maddeningly ambiguous. This is partly because, as geography itself becomes unfixed, geopolitics faces an epochal transition. It is no longer possible to take geography as a given, and each potential direct climatic effect on geography could produce an effectively infinite number of cascading geopolitical responses. Looking forward into the future, this uncertainty compounds like a garden of forking paths.

The nature of foreign policy has always been to require action under conditions of incomplete information. States would have muddled through, with or without a coherent

theory of how to operate in this new reality. If all states shared the same views about the likely changes to geography, and their significance for power, then a new theory would not be needed. But this is not the case. At the same time as climate change introduces into international relations an entirely new kind of uncertainty, it also presents an imperative to take urgent preparatory action on an uncertain timescale.

Once one powerful state began to develop and apply such a theory connecting climate change and geopolitics, it was probably inevitable that other states would eventually catch on and develop their own strategies in direct response. What is less clear is whether, now the climate change and geopolitics have become entangled, this Gordian knot can ever be cut. Nor is it clear what effects this new focus on climate adaptation might have on the global effort to cut emissions, mitigating the worst effects of climate change in the first place.

Even if it was inevitable that climate change and geopolitics would eventually become intertwined, it was not at all inevitable that this should have happened first in Greenland, a majority-Indigenous society north of the Arctic circle, with an economy dependent on fisheries and Danish subsidies, a place where no war has ever before been fought. If the case of Greenland reveals the inevitability of climate geopolitics, it also reveals its contingency, its capacity for surprise, and its fundamental connection to domestic politics and local forces. Climate geopolitics is not and will never be a simple formula for predicting the future or dominating a changing game board. China ought to have learned this in Greenland—though if the most recent open-source commentaries on the topic are representative, many Chinese scholars have not fully internalized the lesson.

There is little intellectually or morally satisfying about climate geopolitics. It is, after all, a deeply cynical or narrow-minded enterprise, about how states promote their interests

against the backdrop of devastating ecological change. It an ongoing and recursive process of perception, analysis, planning, and action, based on a tenuous relationship between theory and observable reality. Yet it also may be sadly necessary, a common enterprise in which every state from this time forward must now engage.

APPENDIX A

List of Interviews

Astrid Geyer d'Orth, France-Greenland Cooperation Attaché, Ministry of Foreign Affairs of France, (Zoom), March 11, 2020

Jon Rahbek-Clemmensen, Associate Professor, Institute for Strategy, Royal Danish Defence College, Copenhagen, (Microsoft Teams), July 20, 2020

Halldor Jóhannsson, Director, Arctic Portal, Reykjavik (Microsoft Teams), July 21, 2020

Marc Lanteigne, Associate Professor, Department of Political Science, University of Tromsø, (Microsoft Teams), July 23, 2020

Jesper Williang Zeuthen, Associate Professor, Department of Politics, University of Aalborg, Denmark (Microsoft Teams), July 27, 2020

Kristian Mouritzen, Defense and Security Correspondent, Berlingske, Copenhagen, Denmark (Microsoft Teams), July 27, 2020

Camilla T. N. Sørensen, Assistant Professor, Department of Political Science, University of Copenhagen (Microsoft Teams), August 6, 2020

Yang Jiang, Senior Researcher, Danish Institute for International Studies, Copenhagen (Microsoft Teams), August 11, 2020

Lill Rastad Bjørst, Associate Professor, Faculty of Humanities, University of Aalborg (Microsoft Teams), August 13, 2020

Ulrik Pram Gad, Associate Professor, Department of Culture and Global Studies, University of Aalborg, Denmark (Microsoft Teams), August 26, 2020

Chris Stavrianou, Managing Partner, Jindalee Partners, Perth, Australia, (Zoom), March 25, 2021

Marc Jacobsen, Postdoctoral Researcher, Scott Polar Research Institute, University of Cambridge (WhatsApp), June 16, 2021

Hans Andreassen, Student Assistant, Greenland Ministry of Foreign Affairs, Nuuk, July 16, 2021

Svend Hardenburg, Former Permanent Secretary, Government of Greenland, Nuuk, July 21, 2021

Julie Edel Hardenburg, Photographer and Activist, Nuuk, July 21, 2021

Qarsoq Høegh Dam, Political Consultant, Nuuk, July 21, 2021

Vittus Qujaukitsoq, former Minister of Finance, Industry, Labour, Trade, and Foreign Affairs and Founder, Nunatta Qitornai party, Nuuk, July 22, 2021

Inuuteq Holm Olsen, Head of Representation, Greenland Representation in Washington, (Zoom), July 23, 2021

Aleqa Hammond, former Prime Minister of Greenland, Nuuk, July 23, 2021

Rachel Lorna Johnstone, Professor of Law at the University of Akureyri, and Adjunct Professor of Law at Ilisimatusarfik (the University of Greenland), Zoom, July 27, 2021

Naaja Nathanielsen, Minister of Natural Resources, Greenland, Nuuk, July 28, 2021

Anonymous, former Greenlandic minister, Nuuk, July 28, 2021

Regin Winther Poulsen, freelance journalist, (WhatsApp), August 9, 2021

Michael Aastrup Jensen, Member of Folketing and Vice-Chairman, Foreign Affairs Committee, Copenhagen, (telephone), August 10, 2021

Martin Breum, independent journalist and author, Copenhagen, August 10, 2021

Luke Patey, Senior Fellow, Danish Institute of International Studies, Copenhagen, August 10, 2021

Aaja Chemnitz Larsen, Member of Folketing, (telephone), August 12, 2021

Walter Turnowsky, former Greenland correspondent, Sermitsiaq, Copenhagen, August 12, 2021

Anonymous, former Member of Folketing, Copenhagen, August 13, 2021

Anonymous, former Member of Folketing, Copenhagen, August 14, 2021

Per Kalvig, Chief Adviser, Geological Survey of Denmark and Greenland, (telephone), August 17, 2021

Palle Bendsen, campaigner, NOAH Friends of the Earth, (Google Meet), August 17, 2021

Claus Hjort Frederiksen, former Danish Minister of Defense, (Zoom), August 20, 2021

H.R. McMaster, former United States National Security Advisor, Zoom, March 2, 2022

Dennis Blair, former United States Director of National Intelligence, (phone), March 24, 2022

Mead Treadwell, former chair, United States Arctic Research Commission (Zoom), April 8, 2022

Anonymous, Danish diplomat, Washington, (Zoom), April 9, 2022

Nadia Schadlow, former United States Deputy National Security Advisor, (Zoom), April 20, 2022

Appendix B: Interpreting uncertainty in climate modeling

The IPCC Sixth Assessment Report (AR6), released in August 2021, represents a definitive summary of the state of scientific knowledge on climate change. Governments use their own data to supplement their readiness planning, but the IPCC's reports provide a definitive peer-reviewed benchmark (National Intelligence Council 2021). The IPCC itself does not undertake original empirical research. It consists of a global community of thousands of scientists who collaborate voluntarily to assess, synthesize, and summarize the vast and varied technical literature. The IPCC plays a crucial role in setting the global interdisciplinary research agenda. Its assessment reports also serve as a crucial bridge between scientists and policymakers (IPCC 2018).

AR6 constructs its models around five scenarios, called Shared Socio-economic Pathways (SSPs). Each is named with a numerical range:

- In **SSP5-8.5**, the “very high” emissions scenario; greenhouse gas (GHG) emissions roughly triple from 2015 levels by 2100, mostly due to emissions in developing countries.
- In **SSP3-7.0**, the “high” emissions scenario; GHG emissions roughly double from 2015 levels by 2050.
- In **SSP2-4.5**, the “intermediate” emissions scenario; GHG emissions “remain around current levels until the middle of the century.”
- In **SSP1-2.6**, the “low” emissions scenario; GHG emissions fall to net zero “around or after 2050” and net emissions thereafter fall gently into negative territory.
- In **SSP1-1.9**, the “very low” emissions scenario; GHG emissions fall to zero before 2050 and are significantly net negative beyond that.

Technically, the numerical ranges associated with the SSPs refer not to the volume of emissions, but to the number of watts of radiative forcing per meter (energy reflected back toward earth by the atmosphere) that each scenario would produce in the year 2100.

However, from a geopolitical perspective, the distinction is semantic. Each scenario is an

“emissions pathway” that assumes a certain quantity of net global emissions each year through 2100. The IPCC encourages policymakers to use the SSPs as benchmarks. They are summarized in Fig. 2.1 below. The following analysis takes the SSPs at face value, assuming that they accurately denote the best-case and worst-case emissions scenarios.

a) Future annual emissions of CO₂ (left) and of a subset of key non-CO₂ drivers (right), across five illustrative scenarios

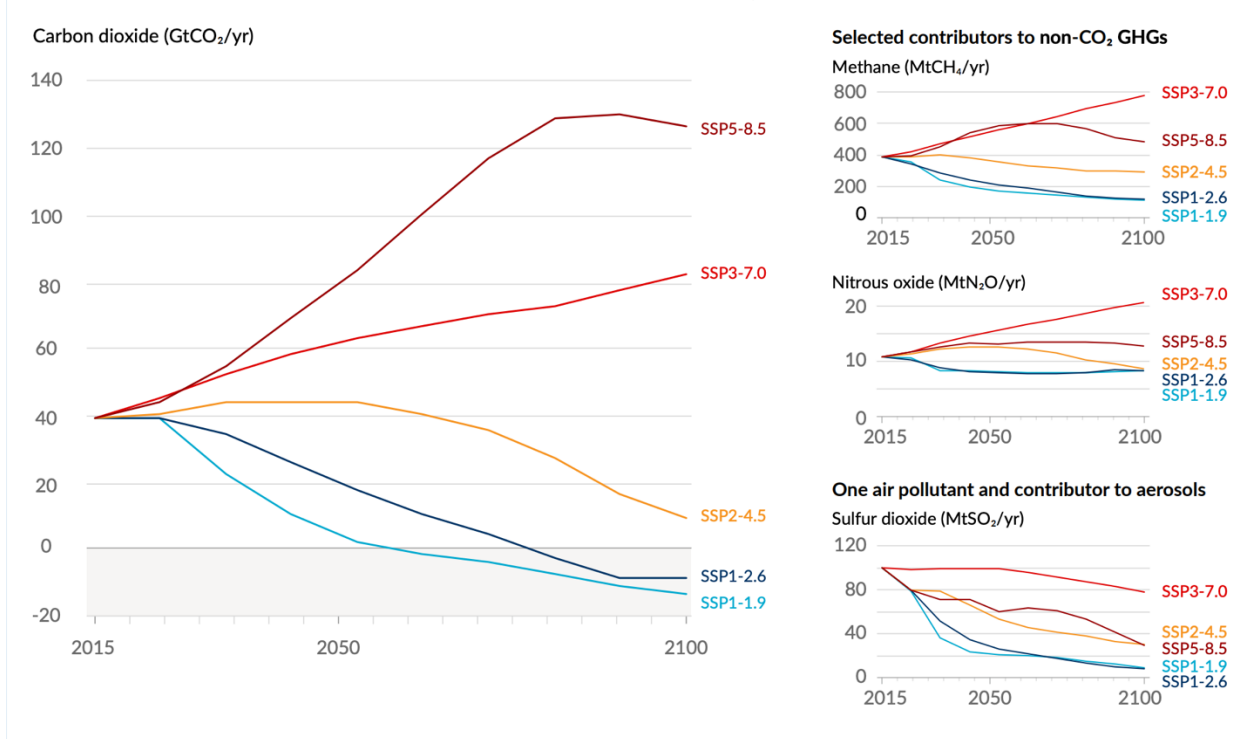


Figure A2.1 – Assumed annual emissions of various GHGs in the five SSPs (IPCC 2021)

Some of the IPCC’s most striking and concerning projections hold true across the SSPs. For example, even in a lowest-emissions scenario, disruptions to food supplies are *highly likely* by mid-century (IPCC 2014). All but the most optimistic SSPs project that climate change will cause global economic shocks, heat waves, droughts, floods, sea level rise, food supply shocks, and severe risks to public health by mid-century, intensifying over the second half of the century. Polar ice melt and sea level rise are projected as *highly likely* to continue for centuries or millennia.

For many climatic effects, the models yield extremely imprecise estimates. As Figure 2.2 shows, AR6 expresses its projections in the form of median estimates and 90% confidence intervals. For example, in the extremely optimistic SSP1–2.6, global average surface temperatures are expected to increase by approximately 1.8 degrees Celsius above pre-industrial levels by 2081–2100. This is just below the 2-degree benchmark often cited as a tipping point for ecological collapse. The 90% confidence interval for this estimate is 1.2 to 2.4 degrees. In other words, if global emissions successfully reach net zero by mid-century, the world might be erring comfortably on the safe side, well below the 2-degree benchmark. However, it may also fall far short of preventing 2 degrees of warming. The IPCC’s reporting does not describe the long tails of its probability distributions: the 5% chance that SSP1–2.6 global average warming would be below 1.2 degrees, and the 5% chance that it would exceed 2.4 degrees. Only for the most ambitious emissions scenario, SSP1-1.9, do scientists have statistical confidence that the planet will avoid 2 degrees of warming by 2100.

Scientists and the press routinely understate this uncertainty when communicating their projections to the public (Nordhaus 2021). Rather than citing confidence intervals, they usually cite the mean estimate, which the IPCC calls the *best estimate*. Yet the models make clear that even if the future pathway of emissions were known, the degree and speed of future temperature rise would still be highly uncertain, and there would remain meaningful risks of severely disruptive climate impacts later in the century. This matters for geopolitics because policymakers, militaries, and intelligence agencies are tasked with studying and preparing for precisely these kinds of unlikely tail risks.

	Near term, 2021–2040		Mid-term, 2041–2060		Long term, 2081–2100	
Scenario	Best estimate (°C)	Very likely range (°C)	Best estimate (°C)	Very likely range (°C)	Best estimate (°C)	Very likely range (°C)
SSP1-1.9	1.5	1.2 to 1.7	1.6	1.2 to 2.0	1.4	1.0 to 1.8
SSP1-2.6	1.5	1.2 to 1.8	1.7	1.3 to 2.2	1.8	1.3 to 2.4
SSP2-4.5	1.5	1.2 to 1.8	2.0	1.6 to 2.5	2.7	2.1 to 3.5
SSP3-7.0	1.5	1.2 to 1.8	2.1	1.7 to 2.6	3.6	2.8 to 4.6
SSP5-8.5	1.6	1.3 to 1.9	2.4	1.9 to 3.0	4.4	3.3 to 5.7

Figure A2.2 - Average projected atmospheric warming over pre-industrial levels across SSPs, 90% confidence interval (IPCC 2021)

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