

Conference track «21.2 International security: new and traditional challenges and threats»

Arctic Critical Mineral Geopolitics: Sino–US Competition and Emerging Security Risks/ Геополитика критических минералов в Арктике: конкуренция США и Китая и новые риски безопасности

Academic supervisor – Казаринова Дарья Борисовна

Сунь Юйцзя

Postgraduate

Peoples' Friendship University of Russia named after Patrice Lumumba, Факультет гуманитарных и социальных наук, Moscow, Россия

E-mail: 1042254171@rudn.ru

Critical minerals, including rare earth elements, graphite, lithium, aluminum, and magnesium, have become central to national security and the global political economy. Under the Paris Agreement and accelerating decarbonization [3], renewable energy systems, electric vehicles, and battery storage depend heavily on stable access to these materials, embedding them in both industrial supply chains and defense infrastructures.

As of the mid-2024s, China holds a dominant position across key segments of the global critical mineral supply chain. China leads global production in at least 15 critical minerals and controls a substantial share of global refining capacity, particularly in rare earth elements, magnesium and graphite [7]. This asymmetry has raised concerns in the United States and other advanced economies about supply vulnerability and strategic dependence. In response, the United States has adopted a “de-risking” strategy aimed at reducing reliance on concentrated supply chains, especially since the second term of President Donald Trump[4]. Measures include expanding domestic mining incentives, strengthening export controls and investment screening, establishing strategic reserves, and coordinating supply chain partnerships with allies. Proposals to build broader coalitions of mineral-producing and consuming states further reflect America’s determination to diversify and realign supply networks [6].

This competition has increasingly extended into the Arctic, where resource potential intersects with strategic geography. Greenland contains deposits of roughly 25 of the 60 minerals identified by the United States as critical to economic and national security, positioning it as a potential alternative supplier. However, environmental constraints, public opposition, and regulations limiting uranium-linked extraction restrict large-scale development [5]. At the same time, growing international interest in Greenland underscores the linkage between mineral access and strategic positioning in the High North, as reflected in President Trump’s renewed proposal in January 2026 to acquire the island on national security grounds, which heightened geopolitical tensions of Arctic region [2]. Beyond Greenland, Canada and Nordic states occupy a complex position. While maintaining selected economic ties of critical minerals with China, they have tightened investment review mechanisms [4]. For instance, Chinese involvement has ended in several cases following Canadian government-ordered divestments and strengthened investment review mechanisms in 2024 [1], reflecting the broader politicization of mineral governance.

Competition over critical minerals thus illustrates how economic interdependence can evolve into strategic rivalry. Although the Arctic is not a primary arena of military confrontation, its resource endowments and geostrategic location make it highly sensitive to major power competition. Efforts to secure supply chains—through diversification, alliance coordination, or regulatory tightening—may reinforce mistrust and institutional fragmentation, gradually reshaping the regional security environment.

Against this background, this study focuses on three questions: how does supply chain resilience translate into strategic distrust in the Arctic? To what extent do de-risking policies reinforce a security dilemma? And what are the implications for regional stability?

The study applies the security dilemma framework to interpret critical mineral competition as a dynamic in which efforts to enhance supply security are perceived as exclusionary. It combines qualitative analysis of Sino–US supply chain structures with comparative production and processing data, using Greenland and Chinese mining investments in the Arctic as case studies to illustrate how competition intersects with regional governance and strategic positioning. The analysis emphasizes the political interpretation of interdependence rather than purely economic indicators.

Preliminary findings suggest that smaller Arctic actors face a dilemma between economic engagement with China and strategic coordination with the United States, resulting in stricter investment screening and the politicization of resource governance. At the systemic level, the securitization of critical minerals risks weakening multilateral frameworks and undermining cooperation on climate and sustainable development. By foregrounding the Arctic spillover of Sino–US critical mineral competition, the study addresses a gap in the literature, which has largely treated resource geopolitics and Arctic security separately, and explains how supply chain asymmetries can transform economic interdependence into structured strategic rivalry in the High North.

Источники и литература

- 1) Andrews-Speed P. Chinese involvement in mining in the Arctic: increasing or declining? Energy Insight 176. Oxford: Oxford Institute for Energy Studies, 2025. 23 с.
- 2) FitzGerald J. Why does Trump want Greenland, and what could it mean for Nato and the EU? // BBC News. 2026. URL: <https://www.bbc.com/news/articles/c74x4m71pmjo>
- 3) Glanemann N., Willner S. N., Levermann A. Paris Climate Agreement passes the cost-benefit test // Nature Communications. 2020. № 1. Ст. 110.
- 4) Heggelund G., Stensdal I., Lamazhapov E. Dig, Baby, Dig? China's Mineral Dominance and Ripple Effects into the Arctic // The Arctic Institute. 2026. URL: <https://www.thearcticinstitute.org/dig-baby-dig-chinas-mineral-dominance-ripple-effects-arctic/>
- 5) Holland E. J., Bazilian M., Busby J. Greenland's Minerals Won't Secure the U.S. Supply Chain // The National Interest. 2025. URL: <https://nationalinterest.org/blog/energy-world/greenlands-minerals-wont-secure-the-u-s-supply-chain>
- 6) U.S. Department of State. 2026 Critical Minerals Ministerial // U.S. Department of State, official website. 2026. URL: <https://www.state.gov/releases/office-of-the-spokesperson/2026/02/2026-critical-minerals-ministerial/>
- 7) Venditti B., Parker S. How Much Control China Has Over the World's Critical Minerals // Visual Capitalist. 2025. URL: <https://elements.visualcapitalist.com/how-much-control-china-has-over-the-worlds-critical-minerals/>