

The background features a stylized globe with a network of thin, curved lines in various colors (blue, green, orange, purple) connecting different points on its surface, suggesting global connectivity and complex systems.

Changes in Geopolitical Strategic Structure Caused by Global Warming and Maritime Security

Policy Brief on the Ocean-related Climate Security Risks Asia-Pacific Climate Security (APCS) Project

Kazumine AKIMOTO, RADM (JMSDF Ret.)

Fellow Emeritus, Ocean Policy Research Institute of the Sasakawa Peace Foundation, Japan

1. Climate Change and Maritime Security

Effects of global warming on the oceans and the typology of climate security

Global warming is having a wide -ranging impact on the security environment surrounding the oceans, including:

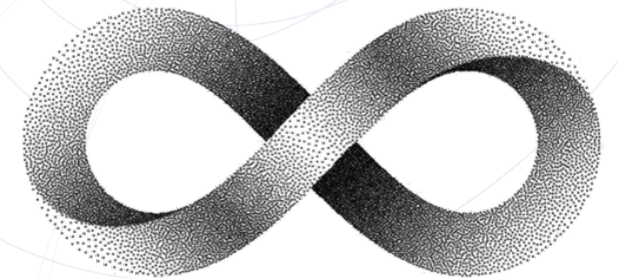
- ✓ Increased severity of natural disasters occurring at seas
- ✓ Sea level rise
- ✓ Changes in marine ecosystems due to rising seawater temperatures
- ✓ Effects of changes in the marine natural environment on the functions of security and defense bases in coastal areas and islands
- ✓ Impact of changes in the marine natural environment on the performance of security and defense equipment at the sea and under the sea
- ✓ Impact on the global economic system and balance of power caused by the development of new sea lanes by melting ice in the Arctic Ocean

2. Changes in the Geopolitical Strategic Structure Brought about by the Development of the Arctic Sea Routes

If the Arctic Ocean becomes navigable all year round due to the melting of ice in global warming, not only maritime logistics but also the security environment will change significantly.

① Sea circle brought about by the Arctic sea routes

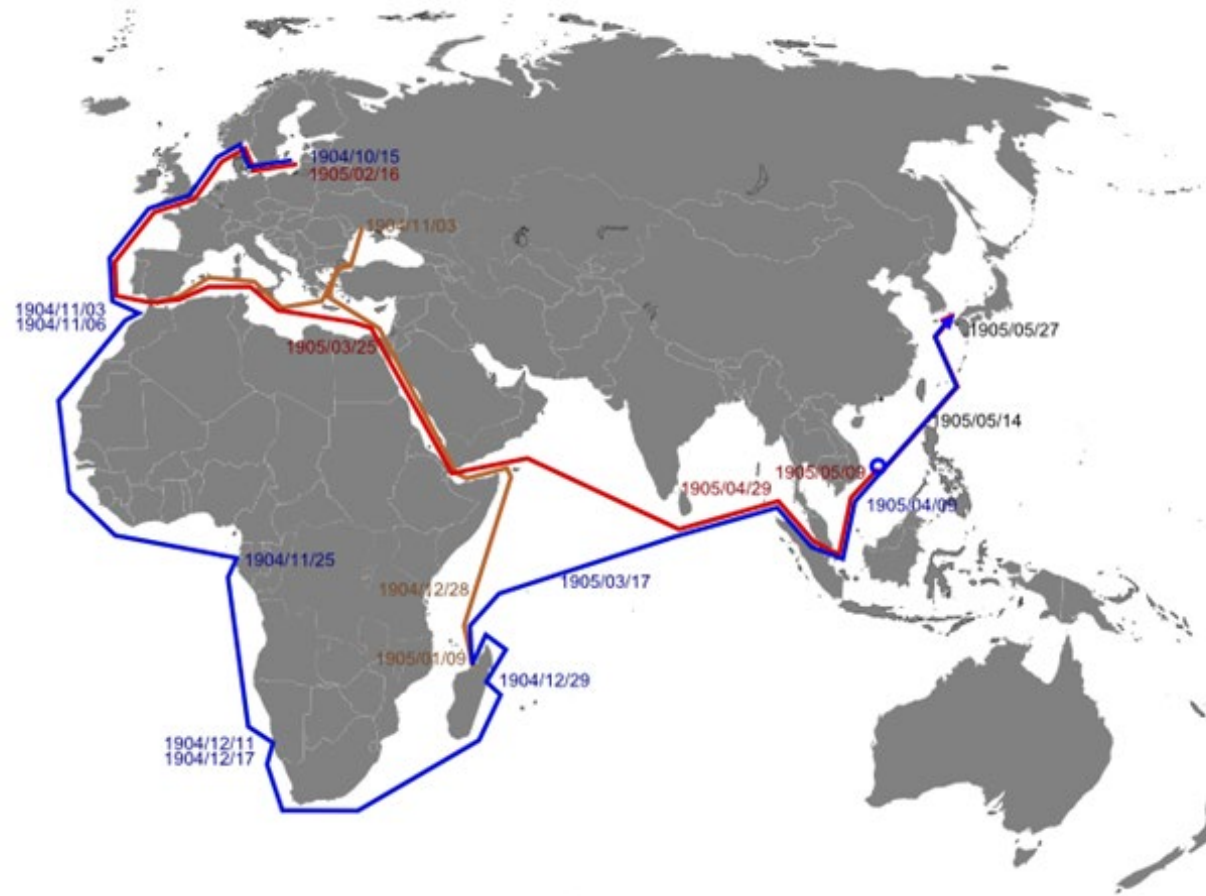
As a melting ice phenomena is accelerated, the Arctic Ocean becomes a new maritime corridor connects the world oceans. By using the Arctic sea routes, all of the major world sea lanes are uninterruptedly connected and a vessel could circumnavigate the seas around the Euro-Africa Continent and the American Continent endlessly like Mobius Loop.



INFINITY

2. Changes in the Geopolitical Strategic Structure Brought about by the Development of the Arctic Sea Routes (Cont'd)

② The deployment of the Baltic Fleet at the Russo-Japanese War

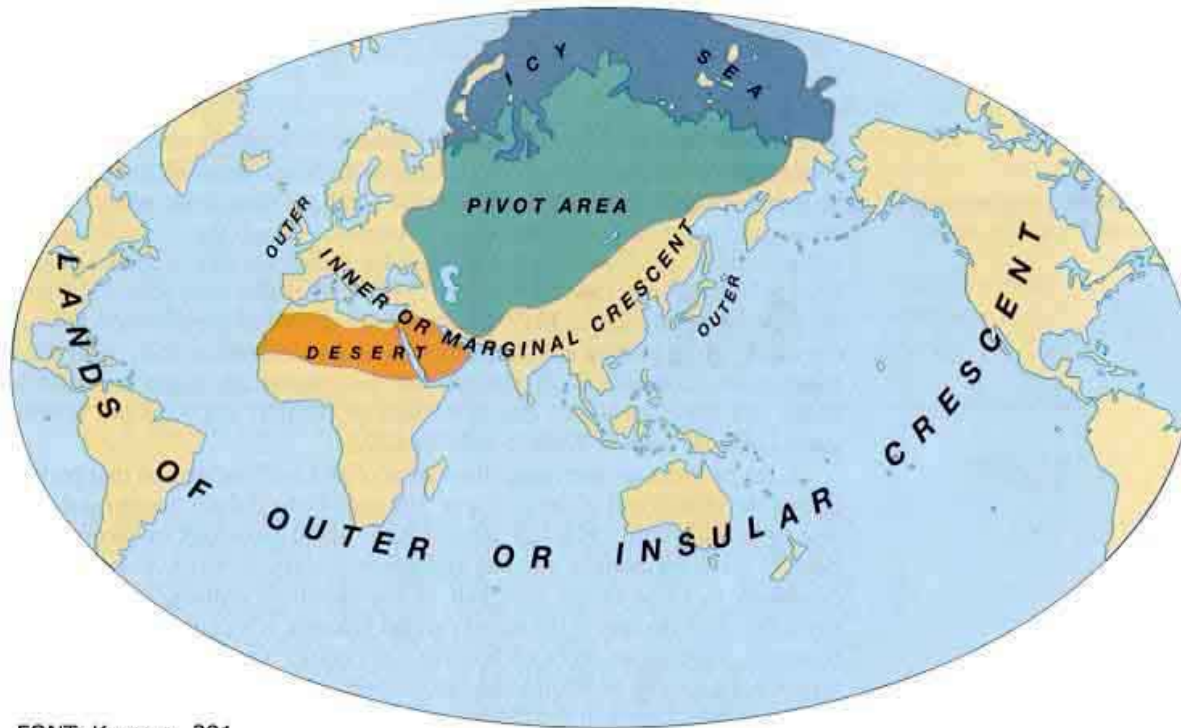


The main forces = blue route / The auxiliary forces = red route

2. Changes in the Geopolitical Strategic Structure Brought about by the Development of the Arctic Sea Routes (Cont'd)

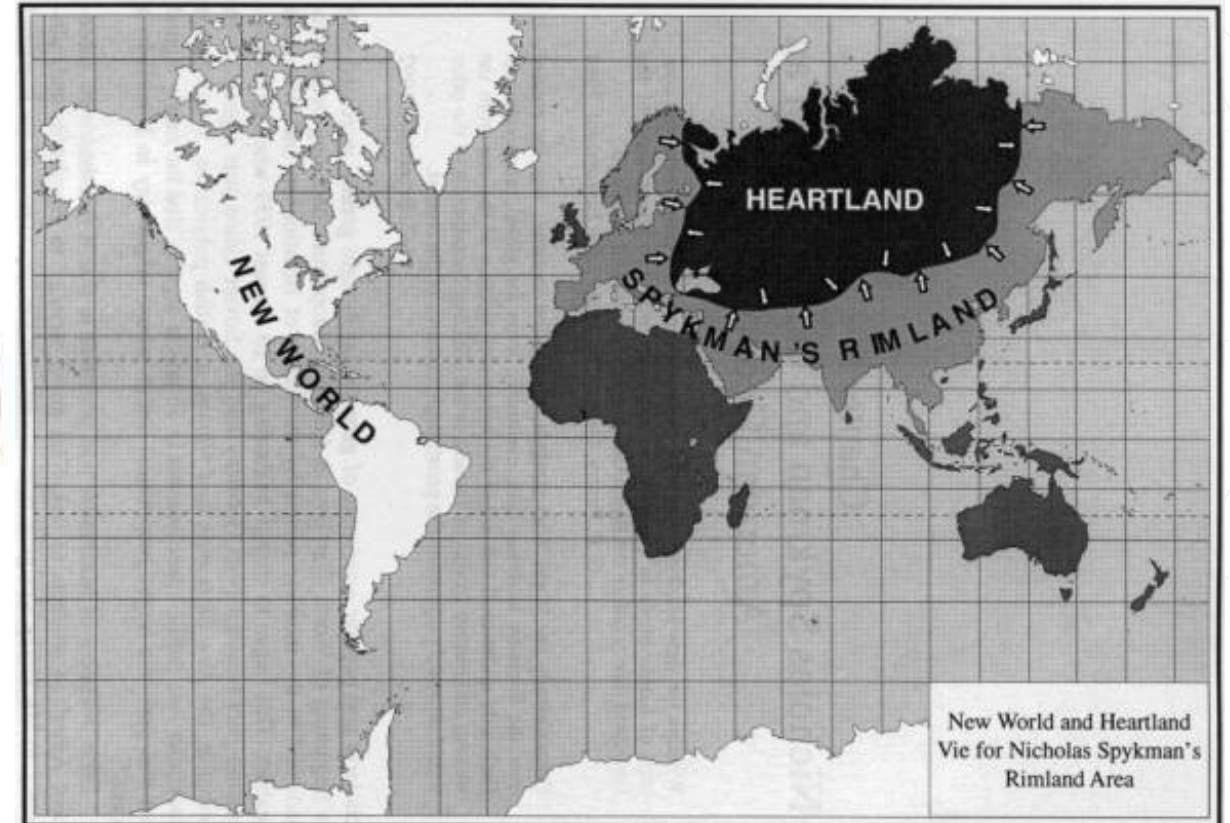
③ Classical Geopolitics

Mackinder's World



FONT: Knox, p. 391

Spykman's World



2. Changes in the Geopolitical Strategic Structure Brought about by the Development of the Arctic Sea Routes (Cont'd)

④ Indo-Pacific as the Geopolitical Pivot/New Rimland “Arctic Maritime Corridor”



2. Changes in the Geopolitical Strategic Structure

Brought about by the Development of the Arctic Sea Routes (Cont'd)

⑤ New Rimland, “Arctic Maritime Corridor”

- brings prosperous and a well shaped governance to the Indo-Pacific
- or
- cuts possibility of connection for further development
- and / or
- brings another security threat to the Indo-Pacific

⑥ Security environment of the Arctic Ocean

Adding to the historical disputes over territories, boundary delimitations

- Increasing military activities in and around the Arctic Ocean
- Concerning the Russia – China coordinated military activities
- Corresponding activities by the US and NATO



- Causing apprehension of accidental arms conflict
- Prospect for a stage of the 2nd Cold war or armed conflicts

2. Changes in the Geopolitical Strategic Structure

Brought about by the Development of the Arctic Sea Routes (Cont'd)

⑦ The geopolitical response

In anticipation of the opening of the Arctic sea routes, many countries and international organizations have begun to respond it geopolitically.

Then U.S. Chief of Naval Operations Adm. Michael Gilday called for a massive international exercise in the Arctic **similar to Rim of the Pacific** at a Brookings Institution panel in Washington, D.C., 7 June 2023

Saying; The trade routes between Asia and Europe will fundamentally change in our lifetime due to the erosion of the polar ice cap. The Arctic becomes now an area of competition that we must think more deeply about.

⑧ “The Ted Stevens Center for Arctic Security Studies” opened in 2022

With most eyes on the conflicts in Ukraine and the Middle East, the U.S. government is quietly boosting its presence in the Arctic through the establishment of the Ted Stevens Center in Alaska.

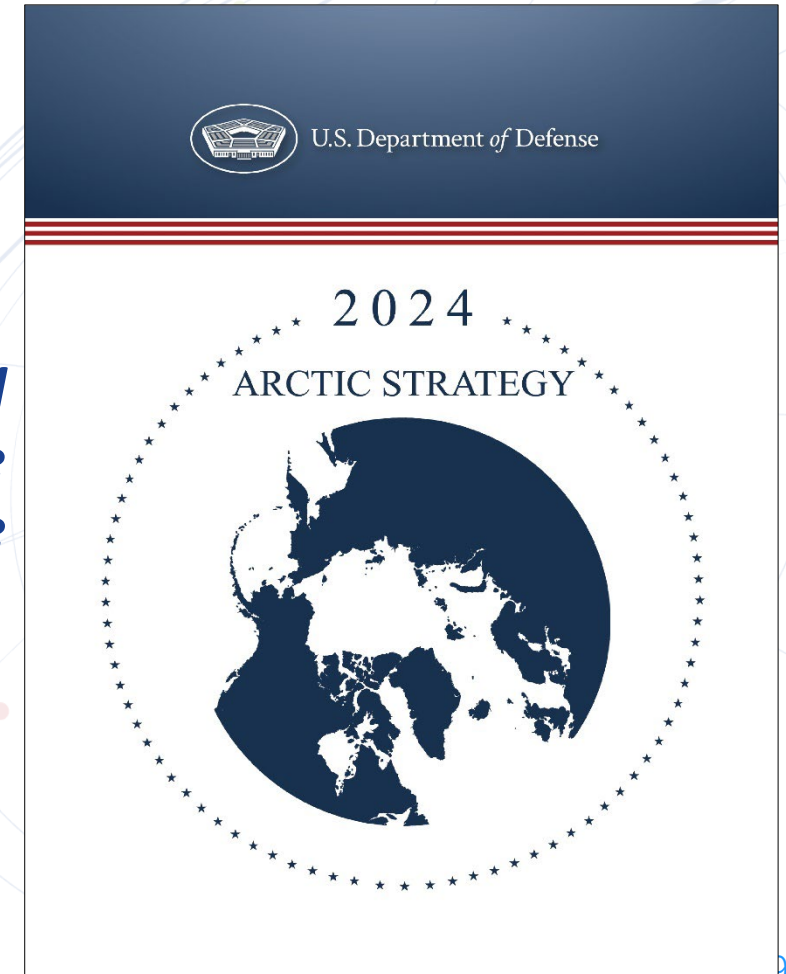
Melting waterways and geopolitical challenges mean that both economic opportunity and international conflict could grow in the region.

2. Changes in the Geopolitical Strategic Structure Brought about by the Development of the Arctic Sea Routes (Cont'd)

⑨ “2024 Arctic Strategy” published by the US Department of Defense calls for enhancements, engagements and exercises in Arctic

Climate changes have meant the melting of ice in the Arctic and the opening of new sea routes, which means new opportunities for commerce and resource exploitation, but also increased risk to nations whose borders were previously protected by the region's inaccessibility.

The strategy acknowledges how environmental changes are affecting the Arctic region, details the implications for U.S. security and spells out how the department plans to be ready to meet new challenges there.



2. Changes in the Geopolitical Strategic Structure

Brought about by the Development of the Arctic Sea Routes (Cont'd)

⑩ Territorial claims

President Trump has shown a willingness to purchase the Danish territory of Greenland even before his inauguration.

Denmark and the autonomous governments of Greenland have refused, but if Greenland becomes a U.S. territory, the balance of power in the Arctic will shift in the U.S. favor.

In response to the U.S. plan to purchase Greenland, Russian President Vladimir Putin said at the forum "Arctic-Territory of Dialogue" held in Murmansk, Russia, on March 27, 2025, that

it is clear that the role and importance of the Arctic is growing in Russia and in the rest of the world. Geopolitical competition and struggle to gain a foothold in the region is also intensifying.

2. Changes in the Geopolitical Strategic Structure

Brought about by the Development of the Arctic Sea Routes (Cont'd)

⑪ Response required of Japan

For the Arctic region ;

➤ Coordinated action for peace and stability in the Arctic Ocean:

✓ Raising a security agenda to the Arctic Council

✓ Russia's active participation in international conferences on security in the Arctic

International conferences involving security in the Arctic include the Arctic Circle, Arctic Encounter, and Arctic Security Conference. Since the war in Ukraine, Russia's participation in these international conferences has plummeted. It is necessary to encourage participation from Russia and increase opportunities for dialogue.

For the Asia Pacific region ;

➤ Restructure the security strategy

✓ Building a security cooperation framework between countries.

✓ Active engagement with other countries which have different interests.

✓ Building a balance of power.