## 1. Project / publication


## 2. Initiator


The game was conducted at a seminar arranged by the War Gaming Department of Naval War College (NWC) 8. – 9. December 2010.

## 3. Objective

The objective was to explore strategic-level implications of future changes in global shipping patterns. This should assist in formulating recommendations for the Navy and to potentially influence future maritime policy for the United States.

Two overarching research questions were formulated:

- What are the broad, strategic security implications for the United States posed by projected changes in shipping patterns as a result of the Panama Canal expansion?

- What are the broad, strategic security implications for the United States posed by projected changes in shipping patterns as a result of the opening of the Arctic?

In addition to the two primary research questions, the GSG also examined the following two subsidiary questions:

- What, if any, are the impacts to U.S. security interests for failing to ratify the United Nations Convention on Law of the Sea (UNCLOS) Treaty based on projected changes in shipping patterns as a result of either the Panama Canal expansion or the opening of the Arctic?

- What challenges, if any, will expansion of the Panama Canal or the opening of the Arctic present to U.S. naval forces engaged in ensuring the free flow of goods at sea while maintaining forward global presence?

As stated in the press release: Navies "exist to facilitate - the flows of commerce, communication and resources” on the sea lanes.

## 4. Geographical delimitation

The entire Arctic Ocean and the Panama Canal with adjacent marine areas – in reality hemispheric and global transport and trade patterns.

## 5. Time horizon

Panama Canal: 2020. Arctic Ocean: 2035

## 6. Thematic focus

The core area of investigations was the impacts on U.S. security interests following from the anticipated changes in the Panama Canal and the Arctic.

In order to consider security implications, participants reviewed a lot of possible changes in activities categorized under the headings political, economic, social, infrastructure, information systems and military.
7. Images of the future

The report does not document scenarios as such, but reference to examination of scenarios is given in the press release without further details.

Key findings about the Arctic are:

1. **Gradual Change** – Game participants believed that projected changes in shipping patterns will occur gradually, rather than overnight, due to the gradual nature of the climate change taking place. Increased global demand and technological advances could accelerate these changes in shipping patterns. However, preparing for these changes by industries and governments will require long lead times of a decade or more in some cases.

2. **Arctic economic viability** – Players said that understanding the extent of the economic viability of the Arctic is necessary to determine the extent of implications and activity needed in the region. The nature of this economic viability of the opening of the Arctic will be more a result of resource extraction and thus will increase the amount of destinational shipping (to and from the Arctic) rather than trade route shipping (through the Arctic).

3. **U.S. Ratification of UNCLOS** - The immediate U.S. ratification of the UNCLOS was strongly supported by all the players. Players said that failure to ratify UNCLOS will create substantial risk for the United States in terms of economic development in the Arctic and will threaten the U.S. position as a global leader in maritime issues.

Primary findings on security implications for the Arctic included:

- A need for building Arctic partnerships in order to build Arctic Domain Awareness (ADA), with an emphasis on the vastness of the maritime passages and the need to respond to crises.
- The opening of the Arctic will require U.S. maritime forces to operate in the region, with the Coast Guard providing presence and the Navy conducting operations in the Arctic environment as needed.

8. Key driving forces

Expansion of the Panama Canal and opening of the Arctic to shipping.

9. Uncertainties/ wildcards

Variants of “wildcards” were introduced to the participants by interventions during the game. A lecture at the end of day 1 presented a crisis of globalization and its further implications on shipping. Other interventions (inlets) on day 2 were developed based upon player survey responses on potential threats to predictability and stability. Among these were changes in law and policy, catastrophic oil or hazardous substances releases, enforcement of sovereignty claims on disputed waters and changes in maritime illicit activity.

10. Accomplishment and collaboration

The project was participatory.

A diverse group of 73 high-level personnel mostly at senior levels were invited to the seminar, based on their specialized knowledge either of the regions in focus or themes under discussion. These provided political, security, international law, economics, commerce, insurance, infrastructure, and regional perspectives. Regarding sectors, game participants represented industries such as commercial shipping, education, government, insurance, international law, oil, and retail.

11. Method

The seminar/game was qualitative. It was followed by an analytical process by NWC-personnel that also involved modelling (triangulation).

Description of the process:

The 73 players received various background briefs presented from military,
government, and commercial shipping industry perspectives.

At the game, they were divided into four groups of approximately 18 players, each with a diverse distribution of expertise represented. A control team from NWC played an important role in effectively monitoring and directing the two-day exercise.

Two groups focused solely on the strategic implications of the Panama Canal expansion while the other two groups focused solely on the opening of the Arctic. During move 1, the players participated in facilitated discussion or brainstorming sessions that followed an inductive approach in order to identify implications and assumptions with regards to their specific industries. The session concluded with players discussing the regions’ future security and trade environments. During move 2, a more deductive approach was followed; the control group presented new arguments and scenarios to challenge the teams to question, re-examine and expand their initial rationale. Lastly, a combined plenary concluded the game by sharing player insights among all four groups, i.a. on what they perceived are the major issues that should be brought to CNO’s attention for the way ahead.

The post-game analysis team consisted of 20 members from the Naval War College that were trained in both data collection during the game and post-game analytic techniques. A mixed methods approach, consisting of various qualitative and quantitative techniques, was utilized for triangulation purposes in order to achieve credible and reliable findings from the data collected. Game data were coded, grouped in categories, and then analyzed for themes.

12. Sources of information
No data sources are mentioned apart from cited literature

13. Strengths
Strength of this “war game” is the interplay between a wide range of civilian actors and the military in deciding what will be the future challenges for the navy.

The approach and steps of the seminar are documented well in the report. It is an untraditional approach that deserves further study.

A spokesperson for NWC said: "Gaming is built to deal with complex, ill-structured problems and these teams were successful in understanding the issues, providing valuable insights and offering key deliverables to the Navy."

14. Weaknesses
The approach required a large infrastructure of people and assisting tools. Was it “shooting sparrows with a canon”?

In reflecting on the limitations of the game design and analysis, the organizers warn against making generalizations from one particular game with one particular group of players. Shortcomings for “internal validation” (can identified cause-effect-relationships be inferred from collected data?) of game results are also mentioned.

15. Attention and significance
Hard to assess.

16. Relevance for the Fram Centre
The War Gaming Department of Naval War College would be an interesting source for more information on strategic planning in the military sector, see http://www.usnwc.edu/Research---Gaming.aspx

Another event scheduled for September 2011 (?) will focus on the Arctic: The purpose of the Fleet Arctic Operations Game 2010 is to identify the gaps that limit sustained maritime operations in the Arctic and recommend Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P) actions in order to inform United States Navy
leadership. See http://www.usnwc.edu/fleetArcticoperationsgame