



CSIS Arctic Speaker Series: Global Implications of a Rapidly Changing Arctic January 22, 2014

This second session of the Arctic Speaker Series brought together leading scientists and government officials to discuss environmental changes in the Arctic region and the potential global implications of a changing Arctic. The panel was moderated by Heather Conley, senior fellow and director of CSIS's Europe Program, and consisted of Dr. Brendan Kelly, assistant director for polar science in the Executive Office of the President, Rear Admiral Jonathan White, director of Task Force Climate Change, and Dr. Martin Jeffries, program officer and Arctic science advisor for the Office of Naval Research.

Dr. Kelly addressed the effects of a warming Arctic, particularly the decreasing quantities of ice and snow. He explained that current scientific models predict a massive or complete ice loss by 2100, a development which would have significant environmental and economic impacts on the region. For instance, an ice-free Arctic would lead to increased economic development, driven primarily by Arctic states, particularly in increased shipping, fisheries and increased natural resource extraction. Yet this increased economic activity could have a damaging impact on the Arctic environment. Dr. Kelly also explained how rapidly decreasing Arctic ice and snow will impact the earth's climate. Because the Arctic plays a crucial role in maintaining the Earth's temperature as most of the sun's rays are reflected off of Arctic ice, as Arctic ice diminishes, more of the sun's rays will be absorbed by the Arctic Ocean, causing water and atmospheric temperatures to rise which result in the slowing of the jet stream. The jet stream will increasingly waver from its usual path and produce more extreme low-latitude weather.

With regard to security matters, RADM White focused on the U.S. Navy and U.S. Coast Guard's (USCG) efforts to ensure security and stability within the Arctic region. He explained that the Navy is in the process of updating the Navy Arctic Roadmap 2014-2030 (which as of February 24, 2014 was formally released), and that the White House's Implementation Plan of National Strategy for the Arctic Region is being finalized (the plan was released on January 30, 2014). The objectives of these plans are to ensure U.S. sovereignty in the American Arctic and to protect U.S. borders and to provide naval-ready forces to respond to an incident in the Arctic, to maintain freedom of navigation, and to promote partnerships within the USG and among international allies. As international passages in the Arctic become more navigable for longer periods of time, the Navy anticipates a possible opening of a trans-polar route.

RADM White also discussed the goals of the USG and the U.S. Navy with regards to Arctic security. The primary short-term goal is to increase coordination of Arctic policies within the USG. In the midterm, the Navy aims to increase its response readiness, while in the long-term, the Navy seeks capability to operate in the Arctic for sustained periods of time.

Finally, Dr. Jeffries addressed the infrastructural development challenges that are prevalent in the Arctic. Due to the extensive layer of permafrost, any on-land development is extremely difficult and expensive. There is a constant threat of damage to infrastructure as the permafrost gradually melts. There are also environmental challenges posed by thawing tundra soil, which contain large quantities of carbon. There is also concern among scientists that microbial activity in the permafrost will increase as temperatures rise and these microbes will consume more matter and thus emit an increased quantity of potent greenhouse gases (GHG). While there has been no notable increase yet in GHG from the Arctic region, if the temperature models are correct, this could dramatically change. The global effects of receding glaciers and ice sheets are another critical factor. Should the glaciers and the Greenland ice sheet melt, this would result in a significant increase of fresh water in the Arctic Ocean, which could have disastrous impacts on current ecosystems, and world sea levels could rise seven meters (24 feet). Sea levels vary globally but the Eastern coast of the U.S. is considered a 'hot spot' due to its low sea levels and could suffer severe consequences from glacial melting. The storm surges from Superstorm Sandy are an early example of the effects from rising global temperatures.

Broadly speaking, the panelists agreed the most pressing concern is a lack of adequate focus and urgency, particularly within the U.S. government, on Arctic issues. As a result, the U.S. may find itself unprepared when a serious security or environmental crisis arises. There was also a general consensus that the biggest misconception is a belief that the Arctic is a remote region that will have little effect on the rest of the world. As Dr. Jeffries adroitly put it, "The Arctic is not like Vegas. What happens in the Arctic doesn't stay in the Arctic."

Dr. Kelly also discussed the U.S. government's integrated Arctic management approach and explained that the current plan is difficult to implement because there are competing values (i.e. economic, environmental, and cultural preservation) in the U.S. government's efforts to protect the Arctic. RADM White addressed the question of budget allocations and explained that the U.S. Navy is currently investing significant portions of its budget in research and development in order to better understand the Arctic environment. He stated that the Navy is working with other governmental agencies to develop policies to promote and implement improved and collaborative research. He also explained that the US Coast Guard is working towards better hydrographic mapping of the Arctic in an effort to fill in significant cartographical and navigational gaps to enhance safety in the Arctic. Finally, Dr. Jeffries explained that the Arctic Council is the primary forum for international collaboration, but that both scientists and world officials should do more to facilitate intergovernmental scientific cooperation on the unprecedented change occurring in the Arctic.