

The American Association for the Advancement of Science (AAAS), the American Chemical Society's Science and the Congress Project, the American Geophysical Union (AGU), and the American Meteorological Society (AMS) present:

# Climate Change & National Security

Friday, June 4, 2010

11:00 AM to 12:30 PM

Room 2212 Rayburn House Office Building  
United States House of Representatives  
Washington, DC

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\*This event is part of the [AMS Climate Briefing Series](#), which is made possible, in part, by a grant from the National Science Foundation's Paleoclimate Program\*

**Program Summary:** Climate change poses considerable risk to physical systems, biological resources, and social institutions that society depends upon. As a result, military officials and security experts view climate change as a threat multiplier of existing national security concerns and a source of new threats to the United States. This briefing will explore the national security implications of climate change to the United States and worldwide.

## Speakers:

**Rear Admiral David Titley, Ph.D.** Oceanographer and Navigator of the United States Navy

**Jeffrey Mazo, Ph.D.** Managing Editor, *Survival* and Research Fellow for Environmental Security and Science Policy at the International Institute for Strategic Studies in London

## Moderator:

**Paul Higgins, Ph.D.** Associate Director, American Meteorological Society Policy Program

## SUMMARY OF REMARKS

**Speaker:** Rear Admiral David Titley

**Title:** Climate Change and the U.S. Navy

To address the national security implications of climate change for the U.S. Navy, the Chief of Naval Operations Admiral Gary Roughead established Task Force Climate Change, or TFCC, in May 2009. The mission of TFCC is to use a science-based approach to develop policy and

investment recommendations for Navy leadership to address climate change. The most immediate national security implication of climate change for the U.S. Navy concerns the rapid decline of sea ice in the Arctic. To address this, TFCC developed the Navy Arctic Roadmap that was signed by the Vice Chief of Naval Operations in November 2009. This roadmap is a 5 year strategic plan designed to ensure the Navy is ready and capable of contributing to a safe, stable, and secure Arctic region throughout the 21st century. Climate change impacts in regions other than the Arctic are addressed in the Navy Climate Change Roadmap signed by the Vice Chief of Naval Operations last month. It identifies near-term efforts such as developing partnerships to respond to climate change, assess effects of climate change, and monitoring the Navy's carbon footprint reduction achieved through TFE's energy security initiatives. Mid- to long-term issues for the Navy will include addressing sea level rise impacts on infrastructure and real estate through strategic investments, developing and implementing installation adaptation strategies to address water resource challenges, and considering the impact of climate change on future missions and force structure, most significantly the loss of arable land and associated economic impacts associated with changing precipitation patterns.

**Speaker:** Jeffrey Mazo

**Title:** Climate Change and International Stability

The security dimension of climate change will come increasingly to the fore over the next two to four decades as many developing countries face falls in available resources and reduced economic vitality, creating greater instability in regions of strategic import and a widening gap between rich and poor. Countries already living on the edge may be pushed into failure or collapse by climate-induced shocks, but if they are already that fragile, the increased security threat may be minimal from a global perspective. More important will be regionally important but less fragile states which could be nudged off the path of development and descend or retreat towards instability and failure, altering the geopolitical landscape.

### **SPEAKER BIOGRAPHIES**

**Dr Jeffrey Mazo** is Managing Editor, *Survival* and Research Fellow for Environmental Security and Science Policy at the International Institute for Strategic Studies in London. His book *Climate Conflict: How global warming threatens security and what to do about it* was published by Routledge in the IISS Adelphi Series in March 2010. He holds an A.B. from Harvard (1981) and M.A. (1983) and Ph.D. (1991) from UCLA in a broad, interdisciplinary field combining anthropology, history, paleoclimatology, archaeology and medieval studies. He has worked in the security and international relations field since 2002.

A native of Schenectady, N.Y., **Rear Adm. Titley** was commissioned through the Naval Reserve Officers Training Commissioning program in 1980. While aboard USS *Farragut* (DDG 37) from 1980-1983, Rear Adm. Titley served as Navigator, qualified as a Surface Warfare Officer, and transferred to the Oceanography community the following year.

Subsequent sea duty included tours as Oceanographer aboard USS *Belleau Wood* (LHA 3) 1985-1987, USS *Carl Vinson* (CVN 70) in 1990, Carrier Group SIX 1993-1995 and U.S. Seventh Fleet

1998-2000. Rear Adm. Titley has completed seven deployments to the Mediterranean, Indian Ocean and Western Pacific theaters. His Belleau Wood deployment included winter-time amphibious operations north of the Aleutian Islands.

Rear Adm. Titley has commanded the Fleet Numerical Meteorological and Oceanographic Center in Monterey Calif, and was the first Commanding Officer of the Naval Oceanography Operations Command. He served his initial Flag tour as Commander, Naval Meteorology and Oceanography Command.

Previous shore tours include assignments at the Regional Oceanography Centers at Pearl Harbor and Guam, the Naval Oceanographic Office, on the staff of the Assistant Secretary of the Navy (Research, Development and Acquisition), office of Mine and Undersea Warfare, as the Executive Assistant to the Principal Deputy Assistant Secretary of the Navy (Research, Development and Acquisition) and as Chief of Staff, Naval Meteorology and Oceanography Command.

Rear Adm. Titley also served on the U.S. Commission on Ocean Policy, as Special Assistant to the Chairman (Admiral (ret.) James Watkins) for Physical Oceanography, and as Senior Military Assistant to the Director of Net Assessment in the Office of the Secretary of Defense.

In 2009, Rear Admiral Titley assumed duties as Oceanographer and Navigator of the Navy.

Education includes a B.S. in Meteorology from the Pennsylvania State University, a M.S. in Meteorology and Physical Oceanography and Ph.D. in Meteorology, both from the Naval Postgraduate School. His dissertation concentrated on better understanding Tropical Cyclone Intensification. In 2003-2004, Rear Admiral Titley attended the Massachusetts Institute of Technology Seminar XXI on Foreign Politics, International Relations and National Interest. He was elected a Fellow of the American Meteorological Society in 2009.