

Climate Change: Implications for National Security and Strategy

Amanda Dory

Deputy Assistant Secretary of Defense for Strategy
OSD Policy

UNCLASSIFIED

Distribution Statement A: Approved for public release; distribution is unlimited.

Report Documentation Page

*Form Approved
OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

| | | | | | |
|---|------------------------------------|---|--|------------------------------------|------------------------------------|
| 1. REPORT DATE 02 NOV 2011 | 2. REPORT TYPE | 3. DATES COVERED 00-00-2011 to 00-00-2011 | | | |
| 4. TITLE AND SUBTITLE Climate Change: Implications for National Security and Strategy | | 5a. CONTRACT NUMBER | | | |
| | | 5b. GRANT NUMBER | | | |
| | | 5c. PROGRAM ELEMENT NUMBER | | | |
| 6. AUTHOR(S) | | 5d. PROJECT NUMBER | | | |
| | | 5e. TASK NUMBER | | | |
| | | 5f. WORK UNIT NUMBER | | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Deputy Assistant Secretary of Defense for Strategy, OSD Policy, 2000 Defense Pentagon Room 5E420 , Washintgon, DC, 20032 | | 8. PERFORMING ORGANIZATION REPORT NUMBER | | | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | | 10. SPONSOR/MONITOR'S ACRONYM(S) | | | |
| | | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) | | | |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited | | | | | |
| 13. SUPPLEMENTARY NOTES Presented at the GreenGov Symposium, October 31 - November 2, 2011, Washington, DC | | | | | |
| 14. ABSTRACT | | | | | |
| 15. SUBJECT TERMS | | | | | |
| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT Same as Report (SAR) | 18. NUMBER OF PAGES 8 | 19a. NAME OF RESPONSIBLE PERSON |
| a. REPORT unclassified | b. ABSTRACT unclassified | c. THIS PAGE unclassified | | | |

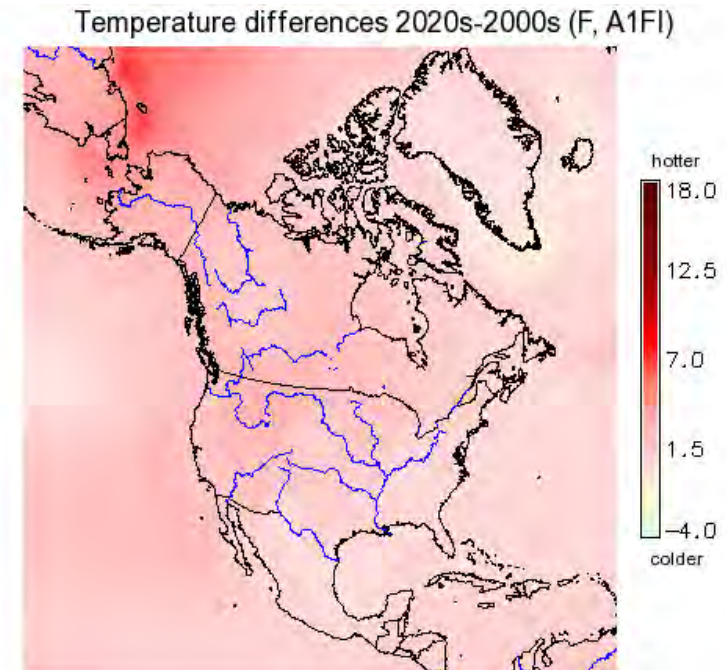
Climate Change: Part of the Strategic Landscape

- Enduring trends and operational challenges will shape the future security environment. Some of those trends include:
 - Increasingly multidimensional conflicts (“hybrid” threats)
 - Threats to the global commons and expansion into space & cyber
 - Growing anti-access/area denial capabilities, including ballistic missile threats
 - Rise of new powers and growing impact of non-state actors
 - ***Resource scarcity, climate change, disease, and demographics challenges***



Climate Change Trends

- **Global temperature is projected to rise 2-11.5°F by 2100 (IPCC)**
- **Higher emission scenarios predict a sea level rise of between 3-4 feet by 2100**
 - Local changes in sea level will also depend on changes in currents, proximity to melting ice sheets, and vertical land movement
- **Impacts associated with these changes include: possible intensification of tropical cyclones; increased frequency of floods; increasingly severe droughts; and wildfires**



Changes in ecosystems and natural resources are occurring faster and with larger magnitude than scientists anticipated as recently as ten years ago.

2008 National Intelligence Assessment

Challenges and Opportunities

■ First order effects

- Changes in precipitation patterns
- Temperature and sea level rise
- Increased intensity of severe weather events
- Ocean acidification

■ Security Implications

- Competition for scarce resources (e.g., water, energy, and food)
- Impacts on agricultural productivity
- Challenges to governments due to resource allocation or potential migration

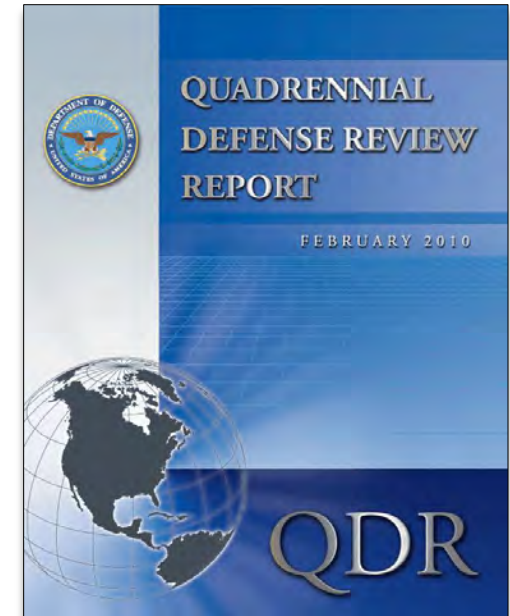
■ Potential Opportunities

- Increased access to Arctic resources and shipping routes
- Longer growing seasons in some regions
- Spur to technological innovation



■ The 2010 Quadrennial Defense Review

- Rebalances US military capabilities and reforms defense processes and institutions to:
 - *Prevail* in today's wars
 - *Prevent and deter* conflict
 - *Prepare to defeat* adversaries and succeed in a wide range of contingencies
 - *Preserve and enhance* the All-Volunteer Force

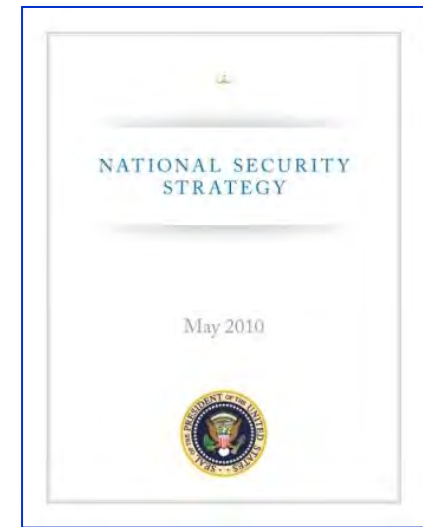
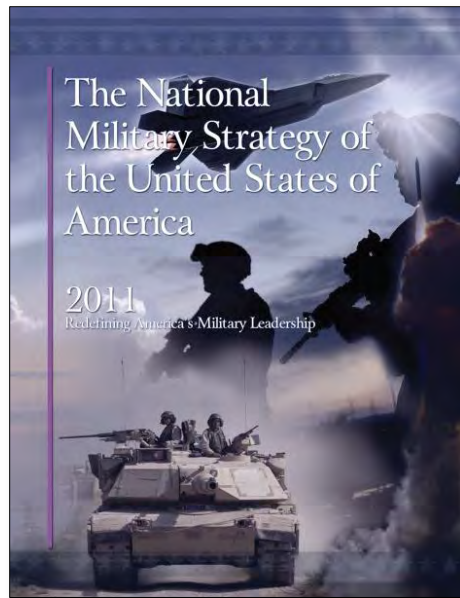


■ Includes discussion of the national security implications of energy and climate change

- Climate change, energy security, and economic stability are inextricably linked
- The actions the Department takes today can prepare us to respond effectively to these challenges now and in the future

■ **2010 National Security Strategy (NSS)**

- *“Our diplomacy and development capabilities must help prevent conflict, strengthen weak and failing states, lift people out of poverty, combat climate change and epidemic disease . . .”*
- *“The danger from climate change is real, urgent, and severe. The change wrought by a warming planet will lead to new conflicts over refugees and resources”*



■ **2011 National Military Strategy (NMS)**

- *“Preventing wars is as important as winning them, and far less costly.”*
- *“In combination with U.S. diplomatic and development efforts, we will leverage our convening power to foster regional and international cooperation in addressing transnational security challenges.”*

Climate Change Impacts on DoD

- **Climate change shapes the Department's operating environment, roles and missions**
 - Defense Support to Civil Authorities
 - Humanitarian Assistance/Disaster Relief
 - Capacity-building with partner nations
- **Climate change effects impact readiness**
 - Installations need to assess and adapt to rising sea level and changes in precipitation patterns
 - Services need to adapt to impacts on training ranges
 - *"Black flag" days unsuitable for strenuous outdoor activity*
 - *Risk of wildfires curtailing live fire training and weapons system qualification activities*



- **Risk management and long-term planning are key to DoD's approach to climate change challenges**
 - Internal DoD activities
 - Strategic Sustainability Performance Plan
 - Energy, water, waste-management efficiency efforts
- **Support to interagency and international efforts**
 - Contributions to diplomacy and development initiatives
 - Army Corps of Engineers water management projects
 - Bilateral engagements with partner nations to build capability and capacity
 - Defense Environment International Cooperation Program
 - Humanitarian assistance and disaster relief in support of civil authorities

