

Climate Change: Implications for National Security and Strategy

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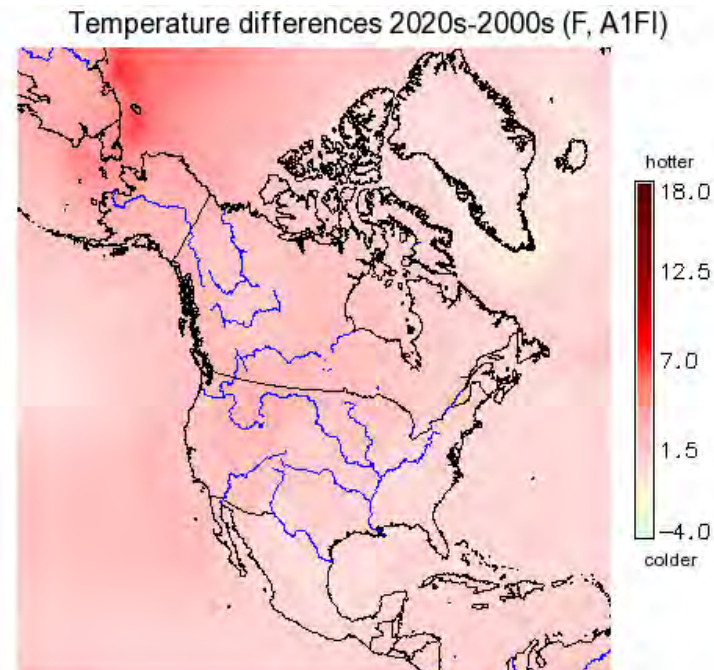
Climate Change: Part of the Strategic Landscape

- 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

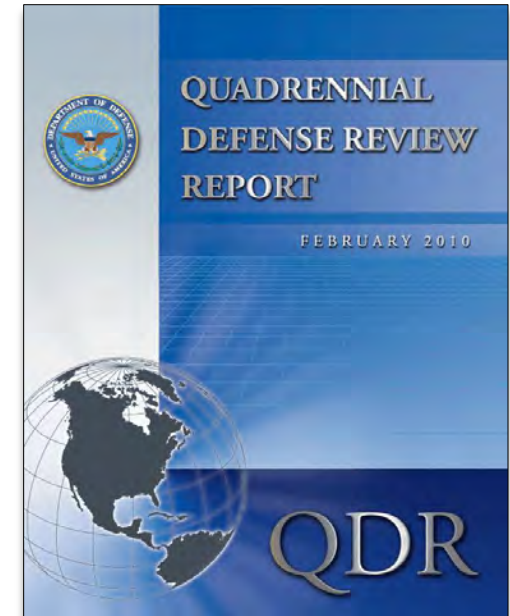
■ Potential Opportunities

- 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



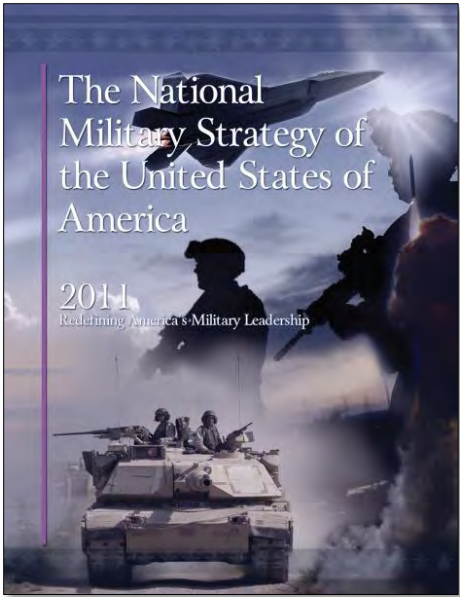
■ Includes discussion of the national security implications of energy and climate change

- 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

Other Strategic Guidance

- **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*



DoD Portfolio of 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

