New Harvard report probes security risks of extreme weather and climate change

February 11 2013

A new study, conducted specifically to explore the forces driving extreme weather events and their implications for national security planning over the next decade, finds that the early ramifications of climate extremes resulting from climate change are already upon us and will continue to be felt over the next decade, directly impacting US national security interests.

Increasingly frequent extreme weather events such as droughts, floods, severe storms, and heat waves have focused the attention of climate scientists on the connections between greenhouse warming and extreme weather. Because of the potential threat to U.S. national security, a new study was conducted to explore the forces driving extreme weather events and their impacts over the next decade, specifically with regard to their implications for national security planning. The report finds that the early ramifications of climate extremes resulting from climate change are already upon us and will continue to be felt over the next decade, directly impacting U.S. national security interests. "Lessons from the past are no longer of great value as a guide to the future," said co-lead author Michael McElroy, Gilbert Butler Professor of Environmental Studies at Harvard University. "Unexpected changes in regional weather are likely to define the new climate normal, and we are not prepared."

Changes in extremes include more record high temperatures; fewer but stronger tropical cyclones; wider areas of drought and increases in precipitation; increased climate variability; Arctic warming and

attendant impacts; and continued sea level rise as greenhouse warming continues and even accelerates. These changes will affect water and food availability, energy decisions, the design of critical infrastructure, use of the global commons such as the oceans and the Arctic region, and critical ecosystem resources. They will affect both underdeveloped and industrialized countries with large costs in terms of economic and human security. The study identifies specific regional climate impacts—droughts and desertification in Mexico, Southwest Asia, and the Eastern Mediterranean, and increased flooding in South Asia—that are of particular strategic importance to the United States.

The report concludes that the risks related to extreme weather require that the U.S. sustain and augment its scientific and technical capacity to observe key indicators, monitor unfolding events, and forewarn of impending security threats as nations adapt to a changing climate. The study recommends a national strategy for strategic observations and monitoring— including greenhouse gas and aerosol emissions, ocean temperatures, and satellite observations of the Arctic—and improved forecast models. "Our critical observational infrastructure is at risk from declining funding," added co-lead author D. James Baker, Director of the Global Carbon Measurement Program at the William J. Clinton Foundation and former Administrator of the National Oceanic and Atmospheric Administration (NOAA). "Without that knowledge, the needs of civil society and national security for mitigation and adaptation will go unmet."

The report grew out of a series of workshops with an international group of leading climate scientists held at the National Academy of Sciences, Columbia University, and the Harvard University Center for the Environment. The study was conducted with funds provided by the Central Intelligence Agency. Any opinions, findings, and conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the view of the CIA or the U.S. Government.

More information: Download the full "Climate Extremes: Recent Trends with Implications for National Security" report at www.environment.harvard.edu/climate-extremes

Provided by Harvard University