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## Climate Change Seen as Threat to U.S. Security

## By JOHN M. BRODER

WASHINGTON — The changing global climate will pose profound strategic challenges to the United States in coming decades, raising the prospect of military intervention to deal with the effects of violent storms, drought, mass migration and pandemics, military and intelligence analysts say.

Such climate-induced crises could topple governments, feed terrorist movements or destabilize entire regions, say the analysts, experts at the Pentagon and intelligence agencies who for the first time are taking a serious look at the national security implications of <u>climate change</u>.

Recent war games and intelligence studies conclude that over the next 20 to 30 years, vulnerable regions, particularly sub-Saharan Africa, the Middle East and South and Southeast Asia, will face the prospect of food shortages, water crises and catastrophic flooding driven by climate change that could demand an American humanitarian relief or military response.

An exercise last December at the <u>National Defense University</u>, an educational institute that is overseen by the military, explored the potential impact of a destructive flood in Bangladesh that sent hundreds of thousands of refugees streaming into neighboring India, touching off religious conflict, the spread of contagious diseases and vast damage to infrastructure. "It gets real complicated real quickly," said Amanda J. Dory, the deputy assistant secretary of defense for strategy, who is working with a Pentagon group assigned to incorporate climate change into national security strategy planning.

Much of the public and political debate on global warming has focused on finding substitutes for fossil fuels, reducing emissions that contribute to greenhouse gases and furthering negotiations toward an international climate treaty — not potential security challenges.

But a growing number of policy makers say that the world's rising temperatures, surging seas and melting glaciers are a direct threat to the national interest.

If the United States does not lead the world in reducing fossil-fuel consumption and thus emissions of global warming gases, proponents of this view say, a series of global environmental, social, political and possibly military crises loom that the nation will urgently have to address.

This argument could prove a fulcrum for debate in the Senate next month when it takes up climate and energy legislation passed in June by the House.

Lawmakers leading the debate before Congress are only now beginning to make the national security argument for approving the legislation.

Senator <u>John Kerry</u>, the Massachusetts Democrat who is the chairman of the <u>Foreign Relations</u> <u>Committee</u> and a leading advocate for the climate legislation, said he hoped to sway Senate skeptics by pressing that issue to pass a meaningful bill.

Mr. Kerry said he did not know whether he would succeed but had spoken with 30 undecided senators on the matter.

He did not identify those senators, but the list of undecided includes many from coal and manufacturing states and from the South and Southeast, which will face the sharpest energy price increases from any carbon emissions control program.

"I've been making this argument for a number of years," Mr. Kerry said, "but it has not been a focus because a lot of people had not connected the dots." He said he had urged <u>President Obama</u> to make the case, too.

Mr. Kerry said the continuing conflict in southern Sudan, which has killed and displaced tens of thousands of people, is a result of drought and expansion of deserts in the north. "That is going to be repeated many times over and on a much larger scale," he said.

The Department of Defense's assessment of the security issue came about after prodding by Congress to include climate issues in its strategic plans — specifically, in 2008 budget authorizations by <u>Hillary Rodham Clinton</u> and <u>John W. Warner</u>, then senators. The department's climate modeling is based on sophisticated <u>Navy</u> and Air Force weather programs and other government climate research programs at <u>NASA</u> and the <u>National Oceanic and Atmospheric</u> Administration.

The Pentagon and the State Department have studied issues arising from dependence on foreign sources of energy for years but are only now considering the effects of global warming in their long-term planning documents. The Pentagon will include a climate section in the Quadrennial Defense Review, due in February; the State Department will address the issue in its new Quadrennial Diplomacy and Development Review.

"The sense that climate change poses security and geopolitical challenges is central to the thinking of the State Department and the climate office," said Peter Ogden, chief of staff to Todd Stern, the State Department's top climate negotiator.

Although military and intelligence planners have been aware of the challenge posed by climate changes for some years, the Obama administration has made it a central policy focus.

A changing climate presents a range of challenges for the military. Many of its critical installations are vulnerable to rising seas and storm surges. In Florida, <u>Homestead Air Force Base</u> was essentially destroyed by Hurricane Andrew in 1992, and Hurricane Ivan badly damaged <u>Naval Air Station Pensacola</u> in 2004. Military planners are studying ways to protect the major naval stations in Norfolk, Va., and San Diego from climate-induced rising seas and severe storms.

Another vulnerable installation is Diego Garcia, an atoll in the Indian Ocean that serves as a logistics hub for American and British forces in the Middle East and sits a few feet above sea level.

Arctic melting also presents new problems for the military. The shrinking of the ice cap, which is proceeding faster than anticipated only a few years ago, opens a shipping channel that must be defended and undersea resources that are already the focus of international competition.

Ms. Dory, who has held senior Pentagon posts since the Clinton administration, said she had seen a "sea change" in the military's thinking about climate change in the past year. "These issues now have to be included and wrestled with" in drafting national security strategy, she said.

The National Intelligence Council, which produces government-wide intelligence analyses, finished the first assessment of the national security implications of climate change just last year.

It concluded that climate change by itself would have significant geopolitical impacts around the world and would contribute to a host of problems, including poverty, environmental degradation and the weakening of national governments.

The assessment warned that the storms, droughts and food shortages that might result from a warming planet in coming decades would create numerous relief emergencies.

"The demands of these potential humanitarian responses may significantly tax U.S. military transportation and support force structures, resulting in a strained readiness posture and decreased strategic depth for combat operations," the report said.

The intelligence community is preparing a series of reports on the impacts of climate change on individual countries like China and India, a study of alternative fuels and a look at how major power relations could be strained by a changing climate.

"We will pay for this one way or another," Gen. <u>Anthony C. Zinni</u>, a retired Marine and the former head of the Central Command, wrote recently in a report he prepared as a member of a military advisory board on energy and climate at CNA, a private group that does research for the Navy. "We will pay to reduce greenhouse gas emissions today, and we'll have to take an economic hit of some kind.

"Or we will pay the price later in military terms," he warned. "And that will involve human lives."

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