Colloquium Brief Strategic Studies Institute

U.S. Army War College and
Triangle Institute for Security Studies

GLOBAL CLIMATE CHANGE: NATIONAL SECURITY IMPLICATIONS

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KEY INSIGHTS:

- Climate change is underway. The effects will vary according to a broad variety of circumstances and interactions, some of which are not well-understood. Likewise, mitigation is not well-understood, and will not take place quickly.
- The national security implications of climate change are proportional both to the speed of change and the extent. Public awareness should follow a coordinated strategic communication plan that focuses on maintaining credibility.
- Threats to national survival stemming from catastrophic change must be anticipated, evaluated, and neutralized to the greatest degree possible.
- The entire range of plausible threats needs to be delineated, then analyzed and early warning criteria established. The alternative approaches and cost-benefit analyses must be run to establish what can be done, when, and at what cost.
- While military forces have roles in disaster relief, the broader impact of serious climate change will require multinational, multi-agency cooperation on a scale heretofore unimaginable and could provide no-fault ground for global cooperation.
- Effective interagency action may require new legislation and better definition of Department of Homeland Security authority.
- Should global cooperative measures fail, the first impact will likely come from large numbers of displaced people who, by the very nature of their displacement, will become subject to malnutrition and disease; agricultural dislocation could aggravate or spark displacement and border security issues could arise as well.

On March 29-31, 2007, the Strategic Studies Institute and the Triangle Institute for Security Studies conducted a colloquium on "Global Climate Change: National Security Implications." Other supporting organizations included the Army Environmental Policy Institute, The Center for Global Change (Duke University), Creative Associates, The Nicholas Institute for Environmental Policy Solutions (Duke University), The Environmental Change and Security Program (The Woodrow Wilson Interna-

tional Center for Scholars), and the Department of Environmental Sciences at the University of North Carolina-Chapel Hill.

Timing of the colloquium was very appropriate. The day following its conclusion, most media announced release of a major study strongly suggesting the onrush of significant climate change with potentially catastrophic effects. This colloquium was somewhat more circumspect and was a serious discussion by professionals attempting to frame the problem on the basis of some certainties and a host of not-so-certainties. The linkage of climate change and national security was and remains a very difficult target to hit directly. If one accepts the above suggested catastrophic vision, the follow-on issue could be reduced to one of national survival, as one's own infrastructure collapses. If, as was suggested by several of the conferees, the impact of climate change is somewhat more nuanced and gradual, then long-range planning for national security is a more viable undertaking. Further, at all points it is essential to differentiate between disaster relief and national security planning. The former is a reaction to immediate need with relatively certain requirements, the latter to planning for a problem the complete dimensions of which are, to a degree, unknowable and are complicated by an uncertain timeline.

The wrap-up speaker, Dr. Richard Weitz (Harvard), noted the many areas in which the conferees voiced general agreement. Among them were that the climate is changing, and the visual and anecdotal evidence is palpable; there is good analytical support for this. He further noted that:

- climate change is likely to produce threats, but the linkages are not as clear as would make for better focused reaction;
- issues surrounding the causes and amelioration of negative effects on climate include reducing demand for noxious effects generating mechanisms and increasing use of alternatives including significant increases in efficiencies in all suspect mediums;
- solutions to positively identified problem areas must be pursued through interagency and international action so as to achieve comprehensive solutions—there are no single-point solutions;
- planning must go forward at every echelon and across national and organizational boundaries.

Areas of contention included:

- the need for an accepted dictionary of terms, the absence of which serves to blur acceptability of analytical work;
- imminence of the threat of major climate change which ranges from very soon, and hence catastrophic, to more gradual, over an extended period of time, allowing better coordinated responses;
- the relative role of military forces/assets, in proportion to the speed of onset and level of danger; yet most of what must be done, outside the realm of disaster relief abroad, is primarily a civil responsibility.

The danger to each region will demand region-specific responses. Therefore, dealing with environmental danger could be a no-fault venue for international action; however, no participants mentioned the United Nations. And, as matters of international law continue to evolve, there is what appears to be an attempt to wage Law-Fare against those who are seen as committing crimes against the environment.

The upshot of all of this strongly suggests a follow-on colloquium to deal in greater depth with several issues, the most important of which, from this writer's perspective, is to establish clearly defensible linkages between causes and effects and closely examine the wide expanse of effects only mentioned in passing at this conference. One such concern is the effect on population. Population impacts will likely be modified by changing distribution, aging, and connectedness. Modification of consumption patterns crosses the population issue as the prospect of changing agricultural capabilities and patterns and sea-based production capabilities undergo change.

In the action category, the issue of strategic communications reappeared time after time, but education by zealotry was generally condemned

as ineffective to the point of doing serious harm—crying wolf too often and too loudly. There are certainties and uncertainties involved in this matter as the following review will note.

Panel I: Defining the Problem, in concert with Panel 2: Climate Change and Human Security, set the stage for all that followed as the two panels defined the landscape. These two panels will receive more space in this report than the others.

Dr. Spencer Weart described how climate change was discovered in the late 19th century at which time CO^2 was identified as the culprit of global temperature increases stemming in part from volcanic action, but increasingly from industrial pollutants generated largely by untreated coal-fueled industrialization. Weart proceeded on a tour of the most influential names in the study of climate change and argued that their conclusions were increasingly confirmed as the quality of the tools employed to measure effects became increasingly sophisticated.

Dr. Robert Correll argued that examinations of ice melt will have some interesting implications, noting that melt will typically occur faster in the North Pole region than in the South. This could provide open water access from Russian North Sea areas for as long as 6 months per year. The thawing is going to raise serious legal issues as all nations bordering the North Polar region have territorial claims that will need adjudication. Noting the irony that glacial melt will likely be accompanied by regional drought, Dr. Correll also suggested that the seriousness of these changes will be of very long duration as CO^2 has a residence time of approximately 300 years.

Dr. Richard Matthews stated that many unknowns exist in attempting to measure physical impacts of climate change and many more when assessing social impacts. He identified some of those as microbial changes, stresses on aging populations less able to withstand dramatic temperature changes, a potential rise in the value of energy that would attract criminal activity, and, in the most extreme case, the cost of relocating entire coastal cities and accompanying infrastructure.

Dr. Jamie Rothenberg, a tropical environmental ecologist, provided a quick review of observed changes in avian behavior that support the warming thesis. The question and answer period that followed brought forth these observations: The Intergovernmental Panel on Climate Change (IPCC) suggests a water level rise of 1-1.5 feet, but others feel that to be too conservative and 3 feet in this century is more likely. This generated discussion of other issues including other climate change thresholds that might affect monsoonal flows, methane release from melting tundra, and subsidence in coastal areas. This broad ranging discussion revealed that many of the connections between issues are not well-understood.

The second panel continued the context-setting by addressing water issues. Dr. Erika Weinthal observed that water issues have risen in salience on all continents. She stated that these issues also involve the subterranean, particularly in the Middle East where several aquifers are already at risk. She further noted the sub-issue of water quality and the centrality of waterborne disease as the prime killer of young children who succumb to the effects of diarrhea. We have known for many years that the first requirement for dealing successfully with any refugee population is meeting the requirement for potable water, followed by sewage treatment/removal. Her final observation was that 80 percent of the world's water usage goes into agriculture.

Dr. Andrew Price-Smith's report on disease was equally unsettling, noting that many nonlinearities, thresholds, and interconnectivities are yet to be fully understood. Pathogen-precipitation links must be modified because of the phenomenon of global travel. He suggested that the IPCC data was for temperate zones, and warming may actually push us toward higher temperature zone studies for greater accuracy. He called attention to places like Nairobi, which were established where they are in order to be free of mosquito-borne malaria, but are now being subjected to increasing incidence of the disease and presence of its propagating vector. He emphasized one closing point—disease is a stressor in both the short and long term and thus begins a potential cascading effect upon a population.

General (Ret.) Paul Kern's address began by accepting the fact of climate change, then ques-

tioned how the military should respond to national security challenges emanating therefrom. An estimate must be established, he said, and alternatives explored. These must then be weighed against available and/or required resources which then demand cost-benefit analyses. In the end, incentives for pursuing the selected options must be developed and offered, particularly in the more catastrophic scenarios for which resources and time cannot be made available. In short, this threat demands a military problem solving-like approach.

Thereafter, a list of very competent papers addressed issues as diverse as the role of extremist ideologies seeking exclusivity or denial at the risk of greater loss, to the role of the corporation in producing clean power, to environmental early warning systems, to the military role of providing assistance, disaster preparedness, peacekeeping, and concluding with strategic challenges. The final presentation centered on keeping the discourse at the national security level rather than the disaster relief level. The significance of the climate change challenge and its requirement for better cooperation across governments and agencies might be best addressed in the United States by a new National Security Act of 2010. It should be configured to oblige intergovernmental cooperation and support for formal planning to deal with climate change in what could become another, newer threat environment.

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